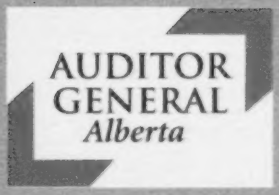

Annual Report of the Auditor General of Alberta

2005–2006

Volume 1 of 2

Volume 1—ISSN 1703–7166

AUDITOR GENERAL
Alberta

Ms. Janis Tarchuk, MLA
Chair
Standing Committee on Legislative Offices

I am honoured to send my *2005–2006 Annual Report*, which is in two volumes, to the members of the Legislative Assembly, as required by section 19(5) of the *Auditor General Act*.

This is my fifth annual report to the Legislative Assembly and the twenty-eighth such report issued by the Auditor General of Alberta.

[Original signed by Fred J. Dunn, FCA]
Fred J. Dunn, FCA
Auditor General

Edmonton, Alberta
September 22, 2006

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Volume 2

We published Volume 2 separately. It contains our audit findings and recommendations for Ministries, MLA expense reimbursements, and the Offices of the Legislative Assembly. It also contains supplementary and reference information.

Snapshot

1. Results of our four major systems audits

Clean drinking water, safe food, healthy forests, and health care: all important programs that the Alberta government regulates. Regulation involves setting standards, monitoring and enforcing compliance with the standards, and measuring results. The Alberta government works with other parties to deliver many programs and services locally—a decentralized approach. However, the government still regulates these areas.

Last year, we examined seniors' care; this year, we examined the government's programs for drinking water, food safety, reforestation, and regional health authority funding. In completing our audits, we considered the following questions:

- Does the government have adequate systems to set standards and monitor and enforce compliance with them?
- Has the government established objectives for its programs so that it can measure if they are successful?

In our audit work on the four programs, we identified two key themes that are the focus of our recommendations.

Two key themes

Standards exist—but government needs to better monitor and enforce compliance

The government has systems to set standards in the areas it regulates, but it needs to improve monitoring and enforcement practices. Monitoring of standards is either inadequate or inconsistent. Good monitoring and enforcement processes are particularly critical in the decentralized environment that the government operates in—to help ensure that the delivery of programs and services is consistent across the province. Without adequate monitoring, government cannot be sure that the standards for clean drinking water, safe food, and healthy forests are being met. The government also needs information to assess if the standards continue to be appropriate.

Government needs the right information to assess if programs are effective

The government has a wealth of information on its activities, but it needs better—not necessarily more—information to assess if programs are working and achieving intended results. Performance information is critical to help the government evaluate whether programs are effective

and meeting objectives. Good performance information will help government, Members of the Legislative Assembly, the media and other Albertans assess program effectiveness. Without the right information, government managers cannot tell if programs are working properly and if they make sense. This is true in any environment, but especially in a decentralized model.

Government regulation has a profound effect on everyday life. Our recommendations are designed to help the government and Albertans know how well government programs are working.

The following four tables summarize the four major systems audits.

Drinking water

Ministry of Environment's Drinking Water Program

Audit objective	Conclusions and findings	Recommendations (6)	Key Rec. No.
To assess if the Ministry of Environment has adequate systems to regulate and promote the provision of safe drinking water under the *Environmental Protection and Enhancement Act*. Specifically: • **Do necessary systems exist to support the drinking water program?** • **Are the systems well-designed?** • **Do they operate as they should?** We did not examine if Alberta's drinking water is safe at all times in all places.	• **Yes, systems exist to support the program.** • **Systems are adequately designed, but the Ministry can improve system design in three areas.** • **No, systems do not always operate as designed.** The Ministry of Environment regulates drinking water systems for 80% of Albertans by: • setting standards • approving systems • monitoring performance • inspecting facilities • enforcing laws	1. Improve effectiveness of system for issuing approvals and registrations. 2. Improve drinking water inspection processes. 3. At the district level, expand communication with partners in drinking water matters. 4. Working with drinking water partners, update strategies to deal with Alberta's need for certified water treatment operators. 5. Improve information systems used to manage drinking water businesses. 6. Ensure that legislation, programs, and practices support new drinking water goals.	2 4

Food safety

Ministries of Health and Wellness; Agriculture, Food, and Rural Development; Regional Health Authorities (RHAs)

Audit objective	Conclusions and findings	Recommendations (10)	Key Rec. No.
Do Alberta government regulatory and program systems effectively and efficiently promote food safety in Alberta? The systems involve the health and agriculture sectors. We did not audit the federal system regulating food produced in Alberta but sold outside it.	**Government systems can improve in key areas.** Food safety inspection programs: • 8 of 9 RHAs haven't met inspection targets. Follow up and enforcement are lacking, so places with poor safety practices continue operating. • Agriculture is behind on inspections under the *Dairy Control Act*. • Enforcement can be improved through a broader range of enforcement tools. Coordination of participants: • Alberta lacks a coordinated food safety policy and integrated planning processes. • There are gaps in food safety coverage caused by poor cooperation. • Performance measures are lacking. Information and information systems: • Different RHAs use different information systems. Many have management, security, and control problems. Data across systems is inconsistent; useful reports are lacking. • Lack of coordination and information system issues undermine the capacity of Health and Wellness and Agriculture to produce joint reporting.	Regional Health Authorities (RHAs) • Improve food inspection programs. • Ensure practices for issuing permits comply with law and are efficient. RHAs and Health and Wellness • Consider wider range of tools to promote and enforce food safety. • Improve automated food safety information systems. Agriculture—improve: • Administration of food safety surveillance program. • Inspection and investigation programs. • Food safety information systems. Health and Wellness and Agriculture • Further develop capacity for food safety accountability, ensuring that information systems produce accountability information the two ministers need. Health and Wellness, Agriculture, and RHAs—work with federal regulators to: • improve integrated food safety planning and cooperation on food safety activities and initiatives. • eliminate gaps in food safety coverage in Alberta.	6 7 10 12

Reforestation

Ministry of Sustainable Resource Development—SRD

Audit objective	Conclusions and findings	Recommendations (5)	Key Rec. No.
Does SRD have adequate systems to regulate reforestation? Its regulation activities include: • developing and maintaining standards • monitoring and enforcing compliance • reporting its performance • evaluating results	**No**. Although SRD took three initiatives to improve its regulatory activities, it must still do more. Currently, SRD does not know what results it achieves. Lack of performance information is a critical problem. SRD: • implemented a reforestation monitoring program. • emphasized to forestry operators the importance of their reforestation data. • is developing public reporting information on reforested areas satisfactorily restocked.	1. Produce timely performance reports to confirm results. 2. Strengthen quality control process that produce performance information, and re-examine if its target for the reforestation rate performance measure actually measures reforestation. 3. Strengthen monitoring of reforestation. 4. Sign agreement with forestry association to clarify accountability expectations. 5. Improve controls over seed supply used for reforestation.	13 15

Regional Health Authority Global Funding (allocating operating funds to RHAs)

Ministry of Health and Wellness and Regional Health Authorities (RHAs)

Audit objective	Conclusions and findings	Recommendations (9)	Key Rec. No.
Does the Ministry of Health and Wellness' Global Funding system (GF) allocate money to Regional Health Authorities effectively and efficiently?	**Yes.** GF is effective because: • It is based on defined rules and historical data. • GF calculations are accurate. • Health and Wellness publicly reports its calculations each year. GF is efficient because: • Few resources are required to administer the system. Health and Wellness has not: • Implemented all of our 1997–1998 recommendations. • Analyzed the success of GF. • Addressed all concerns with GF.	1. Clarify goals and performance measures for its Regional Health Authority Global Funding methodology. 2. Periodically assess if GF is meeting goals. 3. Analyse funding adjustments to ensure consistency with GF goals. Resolve any issues discovered. 4. Continue to improve data used in GF calculations. 5. Improve timeliness of funding communication to RHAs. 6. Coordinate operating and capital funding decisions for RHAs. 7. Retain documentation and support for GF methodology decisions. 8. Improve availability and timeliness of data to RHAs. 9. Refine the system to resolve RHAs' GF concerns.	17

2. Results of our audit work in ministries and other entities

We have key recommendations in the following areas—based on our cross-ministry and ministry audit work.

Recommendation No. 22

Information Technology project management—across the Alberta government, performance in achieving IT project objectives is inconsistent. We have recommended that deputy ministers and their chief information officers provide the oversight necessary to ensure that projects succeed. This recommendation is key to ensure that the province achieves the best return on its investment in information technology.

Various recommendations

Information systems' controls—throughout the report, we have identified several ministries that can improve their information system controls: IT strategic planning and risk assessments; security policies, procedures, and compliance; and continuity planning. These recommendations are important to ensure that the government's and Albertans' personal information is kept secure.

Recommendation No. 23

Monitoring of apprenticeship program —The Department of Advanced Education should improve its monitoring of employers and their worksites to ensure that apprenticeship training standards are met, and that trades people have been certified. This recommendation is key because the current high demand for trades people has increased the risk of unskilled trades workers.

Recommendation No. 24

Farm Fuel Benefit program eligibility

The Farm Fuel Benefit program provides an annual allowance of $34 million and an annual fuel tax exemption of $72 million to eligible people. The Department of Agriculture, Food and Rural Development has no processes to determine benefit eligibility. Registrants are supposed to renew their eligibility every three years; however, the Department has not requested such confirmation since 1997. The Department has to improve its administration of the Farm Fuel Benefit program; otherwise, it may be paying benefits to ineligible people.

Recommendation Nos. 25 and 26

School board budgeting—Albertans provide over $3 billion each year to school boards. The Ministry of Education needs to help school boards improve their budget process, and give guidance to school board trustees to help them with their oversight responsibilities. These recommendations are key to ensure that school boards use their funding effectively.

Recommendation No. 27

Assurance on well and production data and royalty revenue adjustments—we have repeated our recommendation to the Department of Energy to evaluate its assurance that well and production data is complete and accurate because the Department's progress is slower than we expected. Also, our financial statement audit resulted in an increase in gas royalty revenue of $237 million because the Department did not have evidence to reasonably support an adjustment it made to revenue. It based the adjustment on four royalty payers asking the Department to correct previously reported 2001 production data for low productivity gas wells. Our recommendations are key because without implementing them, the government may not collect royalties that Albertans are entitled to.

Recommendation Nos. 31 and 32

Health care costs—we have recommended that the Ministry of Health and Wellness explain and quantify annually, in its annual report, key factors affecting health care costs. The Ministry also needs to link health care costs to outputs for the Ministry as a whole. These recommendations are key so that Albertans can understand why costs are increasing and assess if steps to control and reduce costs are working.

Recommendation statistics

This *Annual Report* contains 59 recommendations, all of which are listed, starting at page 13. We have numbered the 37 recommendations that we consider need a formal response from the government. Of the 37 numbered recommendations, 32 are new. The other 5 repeat previous recommendations with unsatisfactory progress. By repeating these recommendations, we expect the government to formally recommit to their implementation.

Issues more than three years old are reported at page 252 of Volume 2. Since the benefit of any audit work is not in the recommendation, but in its effective implementation, we always follow up until the issue that gave rise to the recommendation is satisfactorily dealt with. We now have 24 issues reported before 2003 that have not been fully resolved; however, progress is satisfactory for 21 of the issues. Progress is not satisfactory for three issues so we have repeated those recommendations.

Key recommendations

We believe the government will significantly improve the safety and welfare of Albertans, the security and use of the province's resources, or the governance and ethics with which government operations are managed by implementing our key recommendations.

Indicates a key recommendation

The key recommendations, in serial order, are numbered: 2, 4, 6, 7, 10, 12, 13, 15, 17, 22, 23, 24, 25, 26, 27, 31 and 32.

Repeated recommendations

This report contains 5 repeated recommendations.

More than three years old:

- No. 19, Volume 1, Regional Health Authority Funding—Data improvement
- No. 33, Volume 2, Health and Wellness—Analysis of physician billing information
- No. 34, Volume 2, Health and Wellness—Information technology control environment

Less than three years old:

- No. 27, Volume 2, Energy—Assurance on well and production data
- No. 29, Volume 2, Environment—Contaminated sites information system

Acknowledgements

We are grateful to the members of the public who contacted us to express their concerns about government systems. We value their input and use their concerns to help us plan future audit work.

MLAs, in particular the members of the Standing Committee on Public Accounts, continue to provide us with suggestions for audits they would find useful in doing their work as legislators. We appreciate their advice and thank them for their continued support.

We acknowledge the advisors who assisted us with our major systems audits. We appreciate the skills, experience and value they brought to our audit teams and our work.

We thank the members of the Provincial Audit Committee for their wise counsel. They are a group of senior business executives with financial, business and governance skills who have an advisory role to government and the Office of the Auditor General.

We appreciate the cooperation of those we audit and recognize it is fundamental to our success. Senior management and board members of audited organizations make time to meet with us and discuss our audit plans, findings and recommendations. In doing our work, we received the necessary information, reports, and explanations to our questions.

My staff, and the agent firms we work with, are dedicated to independent, objective and cost-effective auditing for the Legislative Assembly and the people of Alberta. They are committed to solutions and I thank them for their thorough and professional work.

[Original signed by Fred J. Dunn, FCA]
Fred J. Dunn, FCA
Auditor General

September 18, 2006

Audits and recommendations

Indicates a key recommendation

Green print—other numbered recommendations

Black print—unnumbered recommendations

Volume 1

Drinking Water

Page 37

Approvals and registrations—Recommendation No. 1
We recommend that the Department of Environment make its system to issue approvals and registrations more effective by:

- Strengthening supporting processes such as training, manuals, checklists, and quality control for approvals and registrations,
- Ensuring that applications are complete and legislatively compliant,
- Documenting important decisions in the application and registration processes,
- Processing applications and conversions promptly,
- Maintaining consistency in the wording of approvals and registrations across the province, and
- Following up short-term conditions in approvals.

Page 43

Inspection system—Recommendation No. 2
We recommend that the Department of Environment improve its drinking water inspection processes by:

- Applying the same inspection frequency targets to all waterworks regulated by the Environmental Protection and Enhancement Act,
- Ensuring inspectors receive sufficient training in waterworks systems and operations,
- Revising documentation tools and practices, including making them more risk focused, and
- Informing operators promptly of inspection results, ensuring operators respond appropriately, and concluding on each inspection.

Page 48

Communicating with partners
We recommend that the Department of Environment at the district level expand its communication with partners involved in drinking water matters.

Page 49

Waterworks operators—Recommendation No. 3
We recommend that the Department of Environment, working with its drinking water partners, update its strategies to deal with the Province's needs for certified water treatment operators.

Page 52

Information systems—Recommendation No. 4
We recommend that the Department of Environment improve the information systems used to manage its drinking water businesses by:

- Updating EMS forms and improving reporting capacity,
- Coordinating regional, district, and personal information systems to avoid overlap and encourage best practice, and
- Using data to improve program effectiveness and efficiency.

Page 55

Supporting Environment's drinking water goals—Recommendation No. 5
We recommend that the Department of Environment ensure that its legislation, programs, and practices support its new drinking water goals. This includes:

- Clarifying how approvals will move facilities towards current standards;
- Delivering central initiatives that enhance the drinking water program;
- Determining how the Department should promote policy initiatives such as regionalization, including the financing of those initiatives;
- Establishing how the Department can partner with others while mitigating the risks inherent in partnering; and
- Reinforcing a "beyond compliance" mindset with Department staff.

Food Safety

Page 76

RHA food establishment inspection programs—Recommendation No. 6
We recommend that the regional health authorities improve their food establishment inspection programs. In particular, regional health authorities should:

- Inspect food establishments following generally accepted risk assessment and inspection frequency standards;
- Ensure that inspections are consistently administered and documented;
- Follow up critical violations promptly to ensure that food establishments have corrected those violations;
- Use their enforcement powers to protect Albertans from the highest risk food establishments.
- Periodically reinforce independence and conflict of interest policies amongst public health inspectors.

Page 83

Tools to promote and enforce food safety
We recommend that the regional health authorities and the Department of Health and Wellness consider a wider range of tools to promote and enforce food safety.

Page 84

RHA food safety information systems—Recommendation No. 7
We recommend that the regional health authorities, supported by the Department of Health and Wellness, improve their automated food safety information systems. This includes:

- Enhancing system management, security, and access control;
- Ensuring data consistency;
- Ensuring that service level agreements are in place;
- Developing reporting capacity for management and accountability purposes.

Page 87

Compliance with permitting legislation—Recommendation No. 8
We recommend that the regional health authorities ensure that their food establishment permitting practices comply with legislation and are efficient.

Page 88

Alberta Agriculture's surveillance program—Recommendation No. 9
We recommend that the Department of Agriculture, Food and Rural Development improve the administration of its food safety surveillance program. This includes:

- Documenting its prioritization processes;
- Involving partners in the prioritization of projects;
- Ensuring conditions for the approval of specific projects are met and final approval recorded;
- Capturing costs for large projects;
- Monitoring the impact of surveillance projects;
- Considering whether regulatory support for the program is required.

Page 91

Alberta Agriculture's inspection and investigation programs—Recommendation No. 10

We recommend that the Department of Agriculture, Food and Rural Development improve its inspection and investigation programs by ensuring:

- It considers a broader range of enforcement tools;
- Inspections are up-to-date;
- Practices for complaints, incident reports, and held tags are consistent.

Page 94

Alberta Agriculture's food safety information systems

We recommend that the Department of Agriculture, Food and Rural Development improve its food safety information systems. This includes:

- **Improving security and access controls;**
- **Ensuring complete, timely, and consistent data collection; and**
- **Ensuring data gets onto the computerized data base.**

Page 97

Integrated food safety planning and activities—Recommendation No. 11

We recommend that the Departments of Health and Wellness and Agriculture, Food and Rural Development, in cooperation with the regional health authorities and federal regulators, improve integrated food safety planning and cooperation on food safety activities and initiatives. This includes:

- Each provincial ministry defining its own food safety policies, objectives, and measures;
- Coordinating provincial food safety policies and planning so initiatives are integrated;
- Ensuring provincial approaches align with initiatives being developed through federal/provincial/territorial committees;
- Improving day-to-day coordination of provincial food safety activities;
- Encouraging the joint application of HACCP and HACCP related programs in Alberta; and
- Improving cooperation and working relationships among provincial and federal partners such as the First Nations and Inuit Health Branch and the Canadian Food Inspection Agency.

Page 102

Eliminating gaps in coverage

We recommend that the regional health authorities and the Departments of Health and Wellness and Agriculture, Food and Rural Development, working with federal regulators, eliminate the existing gaps in food safety coverage in Alberta. Gaps include:

- **Mobile butchers with unsanitary premises;**
- **Consistently administering the Meat Facility Standard;**
- **Coordinating inspections in the "non-federally regulated" sector.**

Page 105

Accountability—Recommendation No. 12

We recommend that the Departments of Health and Wellness and Agriculture, Food and Rural Development further develop their capacity for food safety accountability in Alberta. This includes ensuring that information systems can produce the accountability information that the two ministers need, both for individual ministerial accountability and for integrated cross-ministry purposes.

Reforestation

Page 118

Performance information—Recommendation No. 13

We recommend that the Department of Sustainable Resource Development produce appropriately timed reforestation performance reports to confirm the effectiveness of its regulatory activities.

Page 118

Performance information—Recommendation No. 14
We also recommend that the Department of Sustainable Resource Development:
- strengthen its quality control process for performance information
- re-examine whether achieving the target for reforestation rate in harvested areas indicates satisfactory reforestation

Page 122

Monitoring and enforcement—Recommendation No. 15
We recommend that the Department of Sustainable Resource Development strengthen its monitoring of reforestation activities by:
- bringing more rigour to the review of forestry operator plans
- making its field inspection program more effective
- promptly identifying and correcting non-compliance with legislation

Page 127

Forest Resource Improvement Association of Alberta—Recommendation No. 16
We recommend the Department of Sustainable Resource Development enter into a memorandum of understanding with the Forest Resource Improvement Association of Alberta to clarify the Department's accountability expectations.

Page 129

Seed inventory
We recommend that the Department of Sustainable Resource Development improve controls over the seed supply used for reforestation by:
- strengthening processes to ensure that the integrity of the seed zone is maintained
- assessing whether seed is available to meet reforestation requirements.

Regional Health Authority Global Funding

Page 146

Defining goals and performance measures— Recommendation No. 17
We recommend that the Department of Health and Wellness clarify the goals and performances measures for its Regional Health Authority Global Funding methodology.

Page 147

Periodic analysis
We recommend that the Department of Health and Wellness periodically assess whether the Global Funding methodology meets its goals.

Page 149

Non-formula funding adjustments—Recommendation No. 18
We recommend that the Department of Health and Wellness analyze the non-formula funding adjustments to ensure their consistency with the goals of Global Funding. Issues arising from this analysis should be resolved.

Page 153

Data improvement—Recommendation No. 19
We again recommend that the Department of Health and Wellness continue to improve the data used in the Regional Health Authority Global Funding calculations.
(1997–1998—No. 27)

Page 155

Funding communications—Recommendation No. 20
We recommend that the Department of Health and Wellness improve the timeliness of its funding communications to the regional health authorities.

Page 156

Coordination of capital and operating decisions—Recommendation No. 21
We recommend that the Department of Health and Wellness ensure that capital and operating funding decisions for regional health authorities are coordinated.

Page 158

Document preservation
We recommend that the Department of Health and Wellness retain the documentation and support for its Global Funding methodology decisions.

Page 159

Data availability
We recommend that the Department of Health and Wellness improve the availability and timeliness of data to the regional health authorities.

Page 160

Resolving Global Funding issues
We recommend that the Department of Health and Wellness refine its system to resolve the regional health authorities' Global Funding concerns.

Cross-Ministry

Page 174

IT Project Management—Recommendation No. 22
We recommend that the Deputy Minister of Restructuring and Government Efficiency provide guidance to Deputy Ministers and their Chief Information Officers on their responsibilities for overseeing information technology projects.

Volume 2

Advanced Education

Page 9

Effective monitoring of employers providing apprenticeship training—Recommendation No. 23
We recommend that the Department of Advanced Education improve its monitoring of employers providing apprenticeship training by:

1. improving the accuracy of its information on active employers.
2. ensuring that its records of the visits by its staff to employers are available to its field staff and management, and
3. improving its performance evaluation of staff carrying out these visits.

Page 12

Selecting which employers to visit based on risk and opportunity
We recommend that the Department of Advanced Education select which employers to visit based on the likelihood of identifying apprentice training opportunities and problems at worksites.

Universities

Page 20

General computer controls
We recommend that the University of Calgary strengthen the overall computer control environment by clearly defining the role and responsibilities of the Chief Information Officer and resolving deficiencies in the following areas:

- defining standards
- strategic planning
- risk assessment and mitigation
- business continuity and disaster recovery planning
- day-to-day operations

Page 24

PeopleSoft security
We recommend that the University of Calgary improve its controls in the PeopleSoft system by:

- finalizing and implementing the security policy and the security design document, and
- ensuring that user access privileges are consistent with both the user's business requirements and the security policy.

Page 26

Campus security services
We recommend that the University of Calgary Campus Security Services (CSS) improve processes to:

- track open investigative files by key dates and responsibilities
- record detailed evidence on investigative files, particularly in cases of arrest or detention

Page 29

Campus security services
We recommend that the University of Alberta hire a third party to conduct an independent program assessment of Campus Security Services (CSS)—including a review of the protocol agreement between CSS and the Edmonton Police Service—to ensure that CSS complies with the law and employs good enforcement practices.

Agriculture, Food and Rural Development

Page 37

Verifying eligibility for Farm Fuel Benefit program—Recommendation No. 24
We recommend that the Department of Agriculture, Food and Rural Development improve its administration of the Alberta Farm Fuel Benefit program by:

- verifying information on completed program application forms, and
- requiring applicants to regularly renew their registration in the program.

Page 39

Verifying eligibility for the Canada-Alberta Fed Cattle Set Aside program
We recommend that the Department of Agriculture, Food and Rural Development finish verifying if participants complied with the time requirements of the Canada-Alberta Fed Cattle Set Aside program and decide if further action is necessary.

Page 40

Developing and monitoring compliance with an information technology security policy
We recommend that the Department of Agriculture, Food and Rural Development:

- document, approve, and communicate to employees and contractors its information technology security policies and standards.
- implement a process to monitor compliance by employees and contractors with information technology security policies and standards.

Page 43

Information technology security
We recommend the Agriculture Financial Services Corporation improve:

- employee information system security awareness.
- monitoring employee compliance with its computer access policies and procedures.

Economic Development

Page 58

Agreements for locally engaged staff
We recommend that the Ministry of Economic Development maintain current and complete agreements for staffing arrangements at its international offices.

Education

Page 65

School board budget process— Recommendation No. 25

We recommend that Alberta Education improve the school board budget process by:

- Providing school boards as early as possible with the information needed to prepare their budgets (e.g. estimates of operating grant increases and new grant funding, and comments on financial condition evident from their latest audited financial statements).
- Requiring school boards to use realistic assumptions for planned activities and their costs and to disclose key budget assumptions to their trustees and the Ministry.
- Establishing a date for each school board to give the Ministry a trustee-approved revised budget based on actual enrolment and prior year actual results.
- Re-assessing when and how the Ministry should take action to prevent a school board from incurring an accumulated operating deficit.

Page 68

Interim reporting—minimum standards and best practices— Recommendation No. 26

We recommend that Alberta Education work with key stakeholder associations to set minimum standards for the financial monitoring information provided to school board trustees.

We also recommend that Alberta Education work with the key stakeholder associations to provide information to trustees about:

- the characteristics of a strong budgetary control system
- best practices for fulfilling financial monitoring responsibilities

Energy

Page 76

Assurance on well and production data—Recommendation No. 27

We again recommend the Department of Energy:

- complete its risk assessment and evaluate the assurance obtained from the Petroleum Registry System and the Department's controls over well and production data;
- communicate to the Alberta Energy and Utilities Board how much assurance, if any, the Department needs over the completeness and accuracy of well and production data.

(2004–2005—No. 28)

Page 79

Royalty revenue adjustments

We recommend that the Department of Energy review the extent of evidence required to support significant, non-routine adjustments to royalty revenue for financial reporting.

Environment

Page 84

Water Well Drilling—Recommendation No. 28

We recommend that the Department of Environment improve its system to regulate water well drilling by:

- Ensuring that drillers and drilling companies meet approval requirements;
- Implementing controls to ensure that water well drilling reports are:
  - received on time,
  - complete and accurate, and
  - accurately entered into the Groundwater Information System;
- Obtaining assurance that water well drilling activities in the field meet legislated standards.

Page 87

Contaminated sites information system—Recommendation No. 29
We again recommend that the Ministry of Environment implement an integrated information system to track contaminated sites in Alberta.
(2002–2003—No 12)

Finance

Page 97

Supplementary Retirement Plans (SRPs)—Recommendation No. 30
We recommend that the Department of Finance assess the annual and cumulative costs and risks associated with Supplementary Retirement Plans. Further, we recommend that the Department review the Treasury Board Directives to ensure that the amount disclosed as the total compensation of each senior executive includes Supplementary Retirement Plan benefits earned in the year.

Health and Wellness

Page 116

2005 Ministry annual report results analysis—Recommendation No. 31
We recommend that the Ministry of Health and Wellness explain and quantify annually—in its annual report—key factors affecting health care costs.

Page 118

Performance measures No. 32
We recommend that the Ministry of Health and Wellness link health costs to outputs for the Ministry as a whole—in its annual report.

Page 120

Analysis of physician billing information – Recommendation No. 33 (repeated)
We recommend that the Department of Health and Wellness strengthen its processes to analyze and investigate anomalies in physician billing information.
(2000–2001—No. 17)

Page 123

Information technology control environment—Recommendation No. 34
We again recommend that the Department of Health and Wellness carry out a comprehensive risk assessment of its IT environment, and develop and implement an IT disaster recovery plan.
(2001–2002—No. 24)

Regional Health Authorities

Page 126

Capital Health: Accurate financial information—Recommendation No. 35
We recommend that management of Capital Health provide its Audit and Finance Committee with complete and accurate financial information.

Page 128

Calgary Health Region: Monitoring service provider compliance and performance—Recommendation No. 36
We recommend that the Calgary Health Region monitor its contract service provider's performance using the service-level standards and reporting timelines that the Region and the contract service provider agreed to in May 2006.

Restructuring and Government Efficiency

Page 165

Security administration
We recommend that the Ministry of Restructuring and Government Efficiency ensure that the systems it administers comply with the Alberta Government's standards for computer security.

Page 167

Antivirus Updates
We recommend that the Ministry of Restructuring and Government Efficiency administer its clients' antivirus software in accordance with its service level agreements and Government of Alberta requirements.

Page 168

Physical security— Recommendation No. 37
We recommend that the Ministry of Restructuring and Government Efficiency improve the environmental and security controls of the data centres it maintains.

Page 169

Documented procedures and logs
We recommend that the Ministry of Restructuring and Government Efficiency document and log its backup and related procedures.

Major systems audits

Drinking water (Environment's Drinking Water Program)

1. Summary

Environment regulates drinking water for 80% of Albertans

The Department of Environment regulates drinking water facilities based on the *Environmental Protection and Enhancement Act* (EPEA) and its regulations. Environment regulates all waterworks systems except federally regulated systems and private systems such as acreages and farmhouses. About 80% of Albertans rely on Environment-regulated systems for their drinking water.

Other parties share responsibility for safe drinking water

Other parties share responsibility for safe drinking water. Municipalities actually deliver most of Alberta's drinking water by owning and operating the local waterworks systems. Private subdivisions, provincial parks, and industrial facilities own and operate some smaller systems in the province. Waterworks operators look after the day-to-day operation and maintenance of the systems. In addition, other Alberta ministries play a role. For example, Alberta Infrastructure and Transportation funds part of the capital cost for municipal waterworks systems. All of these parties contribute to safe drinking water in Alberta.

The scope of Environment's drinking water program

Safe drinking water has always been the objective of Environment's drinking water program. Environment's traditional role is to regulate by setting standards, approving systems, monitoring performance, inspecting facilities, and enforcing EPEA legislation and regulation. In addition to its regulatory role, Environment promotes best practices at waterworks facilities through its abatement[1] and educational activities. The underlying premise of our audit is this: the better Environment's regulatory, abatement, and educational systems can be, the more effective Alberta's drinking water regime will be.

Environment's drinking water goals

Environment has developed progressive drinking water goals as outlined in *Water for Life*[2] and the government of Alberta's drinking water performance measures. The goals do not create a new role for Environment, but they do revise objectives and timelines for the drinking water program. To succeed with these goals, Environment's drinking water program needs to promote

[1] Abatement officers advise regulated drinking water facilities' owners and operators on operating and maintenance matters so those facilities can provide potable water with minimum risk to public health. Abatement objectives include educating municipal operators and administrators, working with operators to optimize treatment plant performance, helping operators develop emergency response plans, and supporting source protection initiatives.

[2] The *Water for Life* strategy can be found at http://www.waterforlife.gov.ab.ca/docs/strategyNov03.pdf. Goals include "real-time access to information about drinking water quality in their community" and "infrastructure meets emerging standards" (p. 7).

waterworks system upgrades, partner with stakeholders, and report drinking water results to the public. Environment must adapt its traditional drinking water program to support these progressive goals.

Our audit scope

Our audit objective was to assess if the Department has adequate systems to regulate and promote safe drinking water under EPEA. As well, we assessed whether Environment had integrated its new drinking water goals into its existing activities. It is Environment's responsibility to report on the safety of Alberta's drinking water regime. This audit deals only with drinking water quality, not with raw water supply and source protection issues.

Criteria for audit conclusion

We frame our conclusion in terms of three criteria: Do the necessary systems exist to support the drinking water program? Are the systems well designed? Do they operate as they should?

Systems exist

- Environment has had a drinking water program for decades. The Department regionalized service delivery in the late 1990s and formed a Drinking Water Branch in the early 2000s. The necessary systems exist.

In some areas, system design can improve

- Generally the systems are adequately designed. Program components are generally sound and the Department has periodically introduced new initiatives to strengthen the system. The exceptions where the Department should improve system design relate to:
  - information management and information systems,
  - resource management, and
  - integrating Environment's new drinking water goals into its existing program.

Systems do not always operate as designed

- We found cases where the systems do not operate as designed. These are cases where the Department needs to re-establish routines or refresh processes. These are not cases that indicate failure of the system. Environment is doing the right things, but can do them better.

Approval writing processes can improve

Our first five recommendations indicate where more rigour is needed in existing systems. Approval writers should ensure that applications have all the support required by legislation, major decisions about an application are documented, and approvals are standardized across the province as much as possible. Approval writers need a system to ensure that they follow up short-term approval conditions. Supporting tools such as manuals, training programs, and quality assurance review can also improve.

Inspection can be more risk focused

Inspectors can be more risk-focused in their work. They can also be more consistent and prompter in documenting their inspections and reporting their work to the facility owners and operators. Inspectors and their colleagues need to document the results of their work better. In particular, they should record their conclusion at the end of each inspection, including any follow-up work that needs to be done. Environment should inspect all drinking water facilities approved or registered under EPEA with the same frequency and thoroughness that it inspects municipal waterworks facilities.

Expanding regular communication with partners

Environment's district offices should expand their communication with drinking water partners such as municipalities, regional health authorities, and Health Canada where federal lands are involved. Through regular communication, the offices will identify drinking water facilities that Environment should regulate. The partners can also deal with situations where joint activity can advance the Department's safe drinking water goals.

Shortage of certified waterworks operators

Waterworks operators are critical to safe drinking water. Rural and small-town Alberta does not have as many certified operators as required. The Department can further support operator-related initiatives by influencing its partners and encouraging the training of more certified operators. The Department also needs to update its operator certification examinations for recent developments in standards and practices.

Environment should improve its information systems

Drinking water creates a data-rich environment for the Department. However, the main corporate information system, EMS, is difficult to use for data entry, analysis, and reporting. To compensate, district offices and individual staff have created numerous small information systems that often overlap EMS functionality. As a result, the Department is not able to use the wealth of data that should be available to manage proactively.

Current legislation, programs, and practices need to support drinking water goals

Our final recommendation speaks to how Environment can better integrate its new drinking water goals with its existing programs. Environment should ensure that its legislation, programs, and practices support these goals. This includes clarifying how approvals will move facilities towards current standards; ensuring initiatives to improve program efficiency and effectiveness are completed; determining how the Department should promote initiatives such as regionalization, including the financing of those initiatives; establishing how the Department can partner with others while mitigating the risks inherent in partnering; and reinforcing a "beyond compliance" mindset in the Department.

2. Audit scope and objectives

Scope includes regulatory, abatement, and educational activities at Environment

This report outlines conclusions and recommendations arising from our examination of the Department's drinking water program. The Department has regulatory responsibilities under the *Environmental Protection and Enhancement Act* (EPEA). It also has abatement and educational objectives related to its EPEA jurisdiction. In this audit, we did not examine the activities of other Alberta government departments, boards, and agencies, or other parties that have drinking water responsibilities. We audited Environment only.

Our audit objectives

Our audit objective was to assess if Environment has adequate systems to regulate and promote safe drinking water under EPEA. As well, we assessed whether Environment has integrated the goals expressed in *Water for Life*, the *Standards and Guidelines*[3], and the Ministry of Environment's drinking water performance measures into its activities. We do not formally assess and report whether Alberta's drinking water is safe at all times in all places. It is Environment's responsibility to report on the safety and effectiveness of Alberta's drinking water regime.

Drinking water considerations that are out-of-scope

Environment does not regulate private systems that serve single dwellings. The RHAs offer some regulation of these private systems under Alberta's *Public Health Act*. Similarly, waterworks on federal lands are outside the scope of our audit. The *Water Act* covers water supply issues. In this audit, we did not examine Environment's regulatory processes to issue water licenses and ensure that water usage complies with the license.

Timing and extent of audit work

We completed our field audit work primarily in April and May 2006. We examined practices and results for the period starting April 2003 and ending March 2006. Our field work took us to all three regions, the six district and regional offices, and the Department's corporate offices in Edmonton.

3. Background

Waterworks systems

Drinking water in Alberta—in this report, we often speak of waterworks systems. This term covers the infrastructure needed to produce safe drinking water, from extracting the water from a source through delivery to a residence or building. Systems may include water wells and/or water intakes

[3] Alberta Environment, *Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems*, January 2006, 399 pp. The "Foreword" to the document comments that the "objective is to develop comprehensive and scientifically defensible standards and guidelines that are effective, reliable, achievable and economically affordable". Regulated facilities must follow the standards and are encouraged to follow the guidelines. Standards cover topics such as water quality, facility design and operation, chemical treatment, and performance monitoring. You can find the document online at: http://environment.gov.ab.ca/info/library/6979.pdf.

from surface sources, a water treatment plant or facility, and a distribution system.[4] Waterworks systems range from very large and technologically complex systems such as Edmonton and Calgary down to systems that serve no more than two households. Water treatment systems can be very expensive. A new waterworks system for even a small community will cost millions of dollars.

Ownership and operation of waterworks systems

Waterworks systems are often owned and operated by municipalities. Many small communities are on a distribution system from a central hub. For example, Edmonton's two water treatment plants serve about 40% of Alberta's population. In some cases, municipalities outsource operations to private companies. Waterworks systems can also be privately owned such as housing co-ops, subdivisions, and industrial facilities.

Sources and treatment of drinking water

Drinking water comes from surface water or groundwater sources. Broadly speaking, waterworks that draw from surface water or groundwater under the direct influence of surface water (or "groundwater under the influence") are riskier than those drawing from high quality groundwater. Groundwater under the influence is considered equivalent to surface water in Environment's regulatory scheme. Typically, surface and groundwater under the influence systems will have a chemically assisted filtration component followed by a disinfection process. High quality groundwater and treated water in a regional distribution system usually do not need filtration but will require disinfection. Aesthetic considerations such as iron and manganese feature prominently for high quality groundwater.

Alberta government parties

Other parties involved in drinking water in Alberta—other Alberta ministries and agencies are involved in drinking water activities:

- Infrastructure and Transportation pays up to 75% of the capital cost of building a water treatment system for communities under 45,000. Not all communities qualify; they must be registered with Municipal Affairs.
- Regional health authorities work with Environment and the waterworks systems owners during emergencies to issue and rescind boil water advisories.
- Municipal Affairs advocates, helps steer municipalities through the provincial government bureaucratic requirements, offers nominal development money, and registers regional groups.
- Community Development is responsible for provincial parks. Many parks have water treatment systems to serve visitors and staff.

[4] For a technical overview of drinking water standards, technologies, risks, etc., see the website of the Walkerton Commission, http://www.attorneygeneral.jus.gov.on.ca/english/about/pubs/walkerton/. Part Two of the Enquiry's report offers a good level of detail for the layman.

Federal, local, and private parties

The federal government, municipalities, counties, and private entities and organizations are also involved as waterworks owners and operators.

We do not include other parties' activities in the scope of this audit, except as Environment interacts with them.

EPEA mandate

The Department of Environment's drinking water legislative framework—the Department's mandate comes from the *Environmental Protection and Enhancement Act* (EPEA). Under EPEA, the drinking water regulations are:

- Potable Water
- Activities Designation
- Approvals and Registrations Procedure
- Environmental Protection and Enhancement (Miscellaneous).

Codes of practice

EPEA regulation references two codes of practice (CoP):

- CoP for Waterworks Systems Using High Quality Groundwater
- CoP for a Waterworks System Consisting of a Water Distribution System.

Environment develops codes of practice to cover activities that are uniform in nature across Alberta. For facilities that qualify as a CoP activity, Environment will register the facility rather than write a facility-specific approval.

Standards and Guidelines

The Potable Water regulation references the *Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems*. The Department updated the *Standards and Guidelines* in 2006. In this report, we call the 2006 version the "new" or "current" standards. The previous version dates from 1997. The *Standards and Guidelines* as well as the two codes of practice reference the latest *Guidelines for Canadian Drinking Water Quality*[5].

Standards constantly evolve

A key concept is that drinking water standards grow increasingly rigorous on a regular basis. The *Guidelines for Canadian Drinking Water Quality* are updated regularly. Alberta's *Standards and Guidelines* are revised about every ten years. These are not arbitrary events. The combination of scientific and medical knowledge, water treatment technological advances, and economic viability drives the new standards. Following new standards promotes safer drinking water. Alberta keeps pace with the rest of the country and the advanced world by adopting new standards as they evolve.

[5] Information on the *Guidelines* are online at: http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index_e.html.

Environment's goals call for timely adoption of new standards by facilities

Environment's critical decisions are how quickly to enforce the new standards and how to support their implementation. Environment's progressive drinking water goals are outlined in documents like *Water for Life*, the *Standards and Guidelines*, and the government of Alberta's drinking water performance measures. They commit the Department to moving regulated waterworks systems to the new standards by 2012. In the past, waterworks systems could follow older versions of Environment's standards until they upgraded their facilities. As facilities last for 25 years and more, this means that many facilities do not meet the standards of the day.

Environment's drinking water program

The Department of Environment's drinking water program—Environment has regulated drinking water facilities for decades. The main features of the regulatory program include standard setting, operator training and certification, approval writing, inspection, and enforcement. More recently, Environment has taken the lead on *Water for Life*. The Department must ensure that its existing programs support *Water for Life* goals as well as the traditional regulatory objectives. This means that approval writers, inspectors, and abatement officers in the field need to understand and promote these goals in their daily activities.

The central Drinking Water Branch

Environment has a central Drinking Water Branch located in its corporate Edmonton office. The Branch is part of the Environmental Assurance Division. The Branch develops legislation, regulation, standards and guidelines for drinking water facilities. It also offers advice and support to colleagues in the field.

Regional staff include approval writers, inspectors, and abatement officers

The Department has regionalized the delivery of its regulatory and support program in the Regional Services Division. Regional Services divides the province into three regions and each region into two districts. Effectively, the six district offices deliver the program in the field. Each office has approval writing, inspection, enforcement, and abatement staff. The abatement officers are also known as drinking water operations specialists. Environment created the abatement role in 2004 to provide technical support to waterworks operators. Abatement officers visit facilities and offer practical solutions to operating problems.

Drinking water performance measures

Environment's performance measure for drinking water has three components: facility design, facility operations, and water quality incidents.[6]

4. Conclusions

Implementing our recommendations will help the province to maintain its drinking water safety performance

When reading our report, Albertans will ask, "Should we feel confident that our drinking water is safe?" From what we have seen the answer is, "Yes, drinking water from EPEA-regulated waterworks is safe unless advised otherwise." We base this answer on provincial data about waterborne illnesses as well as the occurrence of and reaction to performance issues in regulated facilities. Our audit specifically looked at the government systems that promote safe drinking water. These are the systems that are designed to prevent and, if necessary, identify and resolve issues. Implementing our recommendations will help the province to maintain its drinking water safety performance.

Parameters for concluding

We frame our overall conclusion about Environment's drinking water systems in terms of three parameters: Do the necessary systems exist to support the program's goals? Are the systems well designed? Do they operate as they should?

Systems exist

- Environment has had a drinking water program for decades. The Department regionalized service delivery in the late 1990s and formed a Drinking Water Branch in the early 2000s. The necessary systems exist.

In some areas, system design can improve

- Generally the program is adequately designed. Program components are generally sound and the Department has periodically introduced new initiatives to strengthen the system. The exceptions where the Department should improve program design are:
  - information management and information systems,
  - resource management, and
  - integrating Environment's new drinking water goals into its existing programs.

Systems do not always operate as designed

- We found cases where the systems do not operate as designed. These are cases where the Department needs to re-establish routines or refresh processes. They are not cases that indicate failure of the system. Environment is doing the right things, but can do them better. As Environment improves its systems and performance, the more likely Alberta's drinking water regime will function effectively.

[6] For details, see p. 33 of the 2004-05 Environment *Annual Report*; this is available online at: http://www3.gov.ab.ca/env/dept/reports/annual/2004-05/2004-2005_Annual_Report.pdf. The *Annual Report* for 2005-6 will be available soon.

Six audit criteria established for this work

To provide a structure at the beginning of our work, we developed and agreed with management six audit criteria. At the end of the audit, we use these same criteria to assess the Department's systems to support its regulatory, abatement, and educational drinking water objectives. We concluded that the Department met three criteria, partially met two, and did not meet one.

Criteria	Conclusion			Related Numbered Recommendations
	Met	Partially Met	Not Met	
The Department should have clearly defined goals for its drinking water program.	✔			
The Department should measure and publicly report progress towards achieving its drinking water goals.	✔			
The Department should have a system to maintain its legislation, regulation, standards and guidelines.	✔			
The Department should have systems in place to support the delivery of its drinking water program and businesses.		✔		1, 3, 5
The Department should monitor compliance with, and enforce, its regulatory responsibilities.		✔		2
Automated and manual information systems used to support the ministry's drinking water program should be well designed and operate efficiently and effectively.			✔	4, 5

The Department successfully met three criteria.

Drinking water goals are clearly defined

Clearly defined goals—at the highest policy levels, the Department clearly states its drinking water goals and objectives in its annual plans and reports. *Water for Life* adds longer-term goals and actions to the mix. At more detailed levels, individual goals are stated in documents such as the *Standards and Guidelines*. For example, the *Standards and Guidelines* defines the goal of bringing existing facilities up to current standards by 2012. Goals and objectives for shared stewardship and cooperative approach are embedded in documents such as Alberta Environment's "Compliance Assurance Principles" (June 2000) and "Compliance Assurance Program" (June 2005).

Environment reports progress on drinking water goals and regime

Reporting progress—at a high level, the Department measures and publicly reports progress on its drinking water goals and objectives through the performance measures in its *Annual Plan* and *Annual Report*. The Department also makes public regular updates on its website, such as the October 2005 "Report on Implementation Progress of *Water for Life*"[7] and the June 2006 "Status of the Electronic Submission of Drinking Water Quality Information"[8]. The Department just completed its first drinking water program review as part of its *Water for Life* commitment. The combination of Environment's drinking water performance measures and detailed data from individual waterworks facilities through the electronic reporting initiative[9] will provide readers with information on the safety of Alberta's drinking water.

Update process operates effectively

Maintaining legislation, regulation, standards and guidelines—the Department regularly updates its legislation, regulation, standards and guidelines to support its drinking water goals and objectives. In 2003, the Department introduced two codes of practice that relate to drinking water businesses: high quality groundwater and distribution systems. The Department updates *Standards and Guidelines* about once a decade; the three latest updates were in 1988, 1997, and 2006. The Department has embedded the "Guidelines for Canadian Drinking Water Quality" into its regulatory framework through regulation and the *Standards and Guidelines*. The Canadian guidelines are regularly updated by Health Canada; Environment participates on the federal-provincial committee. The federal Auditor General concluded that the process to develop the Guidelines "is based on risk, science, consultation, and transparency."[10] She also concludes that there is a backlog to develop new guidelines and revise existing ones. This will be significant as it indicates continuing change in water quality guidelines in the foreseeable future.

The Department has partially met two criteria.

Approval, inspection, and operator certification systems can improve

Systems to support the drinking water program—the Department has developed systems over the years to support its drinking water program and businesses. These systems have the traits one would expect in regulatory and related functions; employees pursue their work conscientiously. The Department needs to revisit its systems periodically to ensure they operate as designed and respond to new standards. Recommendation Nos. 1, 2, and 3 deal with the approval, inspection, and operator certification systems that still operate but can improve.

[7] http://www.waterforlife.gov.ab.ca/docs/WFL_ImplementationReport_Oct2005.pdf
[8] http://www3.gov.ab.ca/env/water/dwq/dwq_publications/StatusReport_June_27_2006.pdf
[9] See the description of the Electronic Reporting initiative on p. 58 of this report.
[10] P. 2 of the December 2005 report.

The drinking water program needs to support the new goals

The Department is making progress on the drinking water actions listed in *Water for Life*. The implementation report cited earlier gives readers a view of progress. Recommendation No. 5 emphasizes the need to ensure existing systems support the Department's new drinking water goals.

Environment's planning processes are generally adequate

Planning, budgeting, and reporting follow typical departmental processes. Each of the three regions creates an operational plan, as does the Drinking Water Branch. Operational plans at this level roll up to the divisional plans for Regional Services and Environmental Assurance respectively. Divisional plans integrate with the Ministry business plan. Strategic initiatives are identified during the planning process. Individual employees create annual personal plans that integrate with operational plans. There are templates for all of these plans.

Resourcing issues often cited for performance lags

Resourcing issues are a theme in our report. We were often told that lags in program delivery are resource related. In some cases, there were clearly too few staff to do the work. Emergencies such as the Lake Wabamun spill demand resources and impact routine activities. Special initiatives such as those in *Water for Life* also require resources. But overall the resourcing analysis is complicated at the regional and district levels because staff are not solely dedicated to drinking water matters. We cannot conclude whether the drinking water program needs more resources or whether existing resources need to be better marshalled. Throughout our report we note the instances where resourcing impacted performance.

The demand for abatement services is high

The new abatement officers contribute significantly to meeting Environment's drinking water goals. They visit facilities and offer practical solutions to operating problems. In fact, more abatement officers would be required to fulfill the demand from facilities. Emergency activities take up a significant amount of an abatement officer's time, so routine remedial work such as helping to optimize the operation of a facility may have to wait.

Environment needs to monitor the distribution of its abatement officers

The Southern and Central Regions created four new abatement officer positions. These officers do nothing but drinking water abatement work. By contrast, the Northern Region made its municipal approval writers part-time abatement officers, which in theory provides two full-time equivalent positions. The rationale for using part-time abatement officers is that there is a tremendous geographical region for two employees to cover. However, approval writing is essentially a desk job while abatement officers need to be in the field. The Department will need to review these different approaches periodically to determine whether they deliver equivalent abatement service in the field.

Improve implementation of initiatives

In addition to its long-standing systems, the Department regularly undertakes initiatives that will add value to its operating programs. Some initiatives are drinking water specific; others cover several Environment programs including drinking water. While the Department's initiatives all have merit, implementation through the regions can improve. Recommendation No. 5 deals with a sampling of initiatives.

Inspection processes can improve

Compliance and enforcement—the Department recognizes the need for a regulatory backstop to its drinking water businesses. Environment inspects approved facilities annually and registered facilities bi-annually. In most cases and certainly for larger facilities, inspectors follow this frequency. Over the years, the Department developed systems to support their regulatory businesses. These systems need to be refreshed. Aspects such as inspection frequency targets, training, support material, inspection forms, and documentation are discussed in our second recommendation.

Investigations and emergency responses are appropriate

The Department investigates drinking water incidents and complaints. This includes responding to failed bacteriological tests and non-compliance reported by facilities. We audited a sample of incidents and investigations and found that inspectors and investigators deal with cases promptly and appropriately. They use the EMS incident tracking module and hard copy files to document their work.

The Department has not met one criterion.

EMS, the corporate system, is difficult to use

Information systems—Environment's main corporate system is the Environmental Management System (EMS). Unfortunately, users complain how difficult it is to use, including updating forms, entering data, and especially extracting summary information.

Drinking water information systems proliferate

Because regional users cannot use EMS efficiently, they develop their own applications. In the drinking water program, overlapping systems have proliferated. Regions do not necessarily share the information systems they have developed, so some regions may have good systems that other regions could use. Overall, the Department should make better use of the drinking water data at its disposal. Our Recommendation No. 4 focuses on information systems issues.

5. Our audit findings and recommendations

5.1 Approvals and registrations

Recommendation No. 1

We recommend that the Department of Environment make its system to issue approvals and registrations more effective by:

- **Strengthening supporting processes such as training, manuals, checklists, and quality control for approvals and registrations,**
- **Ensuring that applications are complete and legislatively compliant,**
- **Documenting important decisions in the application and registration processes,**
- **Processing applications and conversions promptly,**
- **Maintaining consistency in the wording of approvals and registrations across the province, and**
- **Following up short-term conditions in approvals.**

Background

Environment issues place-based drinking water approvals

The Department processes applications for approvals and registrations as required by regulation. Environment regionalized the system in 1998 so that district and regional approval managers are directors under the *Environmental Protection and Enhancement Act* and sign the approvals and registrations. One objective for regionalization was to recognize place-based differences. Place-based conditions address particular circumstances in a community. For example, the water in one part of the province may contain different contaminants than water from another part. As well, certain water treatment technologies may be more appropriate in particular circumstances. As a result, we do not expect approvals to be identical across the province. However, where similar circumstances exist in two locations, we expect consistent wording in the two approvals.

Registered facilities follow a provincial code of practice

Until 2004, the Department issued approvals for all EPEA-regulated waterworks systems. Each approval is unique and has to be renewed every ten years. In the early 2000s, the Department recognized an impending burden of approvals to be renewed. To decrease the workload, the Department introduced two types of registration: high-quality groundwater and distribution systems. A registered facility works under a code of practice[11] instead of a unique approval and the registration does not need to be renewed. With codes of practice, the Department can update standards for all registered facilities at one time,

[11] The codes of practice are available online at: http://environment.gov.ab.ca/info/listing.asp?subcategoryid=96. Guides to the codes are available at: http://www3.gov.ab.ca/env/water/DWQ/approvals.html.

rather than amend hundreds of separate approvals. Since 2004, the Department has registered about 285 waterworks systems.

Mechanisms to promote consistency in approval writing

There are mechanisms to promote consistency in approval writing. These include:

- Authoritative support from legislation, regulation, *Standards and Guidelines;*
- The standard clauses committee and the approval template;
- The weekly approval writers' teleconference;
- Legal review of non-standard clauses;
- Review and signature by regional and district approvals managers;
- Review of draft approvals at the corporate Edmonton office.

Criteria: the standards we used for our audit

The Department should have systems in place to support the delivery of its drinking water program and businesses. Consistency, completeness, legislative compliance, and advancing Environment's drinking water goals should be objectives for the approval and registration system.

Our audit findings

Training, support materials, and mentoring can improve

Support for approval writing—at one time, the Department offered orientation and training to new approval writers. The Department has not offered these courses for many years. Support materials such as the procedures binder have not been updated for years. The approval writers used to have an annual conference; they are trying to re-establish one in August 2006 after several years' absence. The regional and district approval managers considered the training officer concept where they would dedicate one staff member to develop training and support materials. This would help address this issue but the proposal was withdrawn due to resource limitations. Offices rely on mentoring although there may be no expertise or time for mentoring. We found in Edmonton and Lethbridge that mentoring could not be effective because there were so few experienced approval writers in those offices.

In practice, the standardization mechanisms outlined above are not strong.

Template not updated for five years

- The Department's standard clauses group[12] created a template for drinking water approvals about five years ago. The template includes standard wording for common situations and served an important training role. For drinking water approvals, the template has not been updated for five years. Staff recognize the need to

[12] An Environment working group of approval writers, approval managers, and Edmonton corporate personnel who review and approve wording that will go into the Department's approval templates.

update for major changes such as the 2006 Standards and Guidelines.

- The approval writers' teleconference each week discusses specific situations and how to deal with them. However, the group's function is largely information sharing; it cannot enforce best practices.
- Legal review is infrequent. We did not see a referral to legal review in our sample, although there were many cases of non-standard wording.
- The regional and district approval managers are not necessarily experts in drinking water matters and in many cases cannot provide detailed direction.
- No one at the Edmonton corporate office routinely reviews approvals before their signing.

A quality assurance function would promote best practices in approval writing

These findings point to the need for a quality assurance function across the province. In its absence, individual offices tend to develop their own style of approval. For example, Calgary tends to write quite a bit of technical detail about the chlorination calculation into its approvals for the benefit of the facility operator. We are not saying that Calgary's approach is inappropriate. We are saying that the Department's approval system should identify best practices at individual offices and promote those practices across the province. It is important that approval writers exercise professional judgment within the framework of shared best practice.

Resourcing issues have caused backlogs

Resourcing issues have impacted performance. For example in Lethbridge, finding and retaining approval writers caused a backlog. In 2005, there was a period of several months where Lethbridge had no approval writer. Of eleven drinking water renewal applications to be processed in 2005, seven were still in progress when we visited in May 2006. All seven had been extended at least once. This was not the intention of the extension sections in EPEA[13]. In Calgary, the approval writers have not been able to meet processing timelines for all of their new and renewal approvals. Most importantly, slow cases are often difficult cases where drinking water issues that may impact health need to be resolved. Nevertheless, it can take years to resolve difficult cases.

Not all applications were legislatively compliant or complete

Approvals—not all applications were complete as defined by regulation, yet approvals were granted. A key regulatory requirement is that plans should be signed and sealed by a professional engineer. We examined approval activity for 19 facilities. For the 19, there were 35 actions taken

[13] Section 69(2) of EPEA states, "The 2nd extension ... may be made only where the Director is of the opinion that [it] is necessary to allow for the effective public review of the renewal".

in the last two years (e.g. initial approvals, renewals, extensions). For those actions we examined, three did not have signed and sealed plans as required by regulation and two more had signed and sealed plans that did not meet the content requirements of the regulation. Meeting this requirement is important as the Department wants to place greater reliance on the proponent's engineers and spend less approval writers' time reviewing plan details.

Better application forms and review checklists would help

The Department offers only one application form (for new facilities) on its website. The Department could benefit from specific applications, such as one for renewals and one for registrations. Approval writers seem to accept almost any form of application, including old and out-of-date forms. Different offices use different checklists or no checklist to guide their review of applications. Most checklists were out of date. In particular, they do not take into account the new standards that came out in January 2006.

The internal "resume" form was not used consistently

The "Resume" form was not consistently, completely, and effectively used. The resume is an internal cover sheet that explains the important decisions made on an approval and contains the approval writer's assertion that he has done his due diligence. The approval managers do not always have time to proofread 20-page draft approvals and therefore rely on resumes. However, for 7 of 35 approvals that we examined, the resume was not used when it should and in one further case was not signed by the manager. In most cases, the resume did not include the descriptions and summaries required to make it complete and useful.

Approvals can be more accurate and consistent

Conditions in approvals were not consistent across the province. From our sample of 19 approved facilities, we observed that:

- Some approvals contain errors such as allowing a small systems operator for a surface water facility. The small systems operator certification is reserved for high quality groundwater or distribution systems only.
- Some approvals contain conditions designed to move the facility closer to meeting current standards. For example, the facility may be required to commission a consultant's report or prepare an upgrade study. The approval writers apply these conditions at their discretion. In many cases, the approval writers mentioned that the financial and operational capacity of the particular municipality played a role in determining which conditions apply.
- Some approvals embody the individual traits of the approval writer. Again, some of these individual traits could evolve into best practices across the province whereas others represent an uneven application of the regulations.

Approval files do not document the rationale for key decisions

Approval decisions were not well documented. Typically, approval files do not record the rationale for making key decisions in the approvals. This is of more than historical interest. Rationales help the inspectors and abatement officers when it comes to inspection and assistance. Approvals will eventually need to be renewed. The reasons for making key decisions should be clear. Using the resume properly makes a significant difference in the quality of documentation.

Following up short-term conditions

Environment should improve its system to follow up short-term conditions in its approvals. Approvals contain a series of conditions that dictate how a waterworks system should be designed, operated, monitored, and reported. Short-term conditions require the operator to perform an action right away. For example, a short-term condition may require the operator to install a particular piece of equipment or prepare a plan in a short time frame such as 60 days. Environment's system now relies on its inspection process to catch conditions that have not been met. For short-term conditions, this could mean that more than a year could pass until the outstanding condition was identified. We saw an example where Environment has still not received a report due in December 2004.

Conversion process left to each district office

Registrations—in 2004, the Department converted hundreds of approvals to registrations under the new codes of practice. The codes introduce uniformity for these types of facilities, yet the process to implement the codes was largely left to each district office. The Drinking Water Branch did not offer direction in this conversion activity. We note four concerns with the conversion process.

Conversion not documented

- No district office documented its conversion process. We were not able to review how the conversion process took place.

Criteria not established

- The Department did not establish clear criteria for determining high quality groundwater, the key decision in the conversion process. There is direction in the 2006 Standards and Guidelines but in 2004, that direction was under development.

Data suggests high quality groundwater issues, but issues not always considered

- We could not see a process to identify and address problem facilities. We expected that each district would review information to identify potential problems. For example, the regions had performed much of the work on the Facility Assessment Report[14] by this time, but those results do not seem to have been reviewed during the conversion process. Since 2004, cases have appeared where the Facility Assessment Report contradicts the original determination of high quality groundwater. In one case, the

[14] As part of the *Water for Life* initiative, Environment undertook a review of all EPEA-regulated facilities. The full report can be found on the Water for Life website: http://www.waterforlife.gov.ab.ca/docs/Assessment_Report.pdf.

Department subsequently reversed the registration and renewed the approval. The regional health authority then placed the facility under an indefinite boil water advisory. Other facility assessments indicate the possibility of groundwater under the influence but the Department has not documented its analysis of these situations.

Conversions still under consideration

- The timeliness of the process could improve. As of May 2006, the regions still need to make decisions about a minority of their potential groundwater conversions. While the facilities' original approvals still regulate operations, timely conversion will oblige the facilities to meet the current code's standards sooner than later.

Not all applications were complete; resume not used consistently

Since 2004, Environment has received applications for new registrations. As we found with approvals, not all applications were complete as defined by section 3.1.3 of the Codes of Practice, yet registrations were granted. Again, plans signed and sealed by professional engineers were an issue. Of the new registrations that we examined, three did not meet the application requirements. As with approvals, the resume was not consistently, completely, and effectively used. In eleven cases the resume was not used when it should have been and in six further cases it was not signed by the manager.

Non-standard clauses written into standard registrations

Approval writers are writing non-standard clauses into registrations. The issue is how to keep these clauses and exemptions up-to-date as the codes of practice evolve. For example, there will be a new version of the codes in 2006. As the requirements in the code change, the amendment may become difficult to track and to justify.

No direction to municipalities on creating plans

The Codes of Practice require waterworks to develop routine operational procedures and emergency response plans. However, the Drinking Water Branch has not provided direction to operators or departmental staff on these topics. A template or checklist would cover the requirements of an acceptable set of procedures or plan. They would also provide a starting point for small waterworks operators who do not feel comfortable creating procedures or plans from scratch. As a result, some municipalities contract engineering firms to develop their paperwork. This is an expensive way to develop procedures and plans. The Central Region has been developing support material and presentations to help its clients meet the obligation. Other regions should participate in this initiative.

Implications and risks if recommendation not implemented

Without strong systems to support approval and registration writing, the Department may not recognize the benefits of consistency in the program. These benefits include:

- Ensuring that approvals clearly define minimum acceptable standards;
- Providing a level playing field for all applicants; no facility needs to expend more than an equivalent facility to achieve the same standards;
- Identifying and promoting best practices for approval writing in equivalent circumstances across the province;
- Operating an efficient approval and registration writing function.

5.2 Inspection system

Recommendation No. 2

We recommend that the Department of Environment improve its drinking water inspection processes by:

- **Applying the same inspection frequency targets to all waterworks regulated by the *Environmental Protection and Enhancement Act*,**
- **Ensuring inspectors receive sufficient training in waterworks systems and operations,**
- **Revising documentation tools and practices, including making them more risk focused, and**
- **Informing operators promptly of inspection results, ensuring operators respond appropriately, and concluding on each inspection.**

Background

Inspection system identifies contraventions and has them corrected

The inspection system is the Department's primary tool for monitoring compliance with its water treatment legislation and regulations. The Department's inspection system determines whether the regulated waterworks comply with the conditions of their approvals and registrations issued under EPEA. The inspection system identifies approval and registration contraventions and seeks to have them addressed in a timely and appropriate manner.

Inspection frequency targets and reporting progress

The Department has set inspection frequency targets for municipalities that operate water treatment plants. The targets reflect the Department's risk assessment of different types of waterworks systems. Environment annually inspects municipally-owned waterworks drawing from a higher-risk surface water source or from groundwater under the direct influence of surface water. Municipal waterworks drawing from high-quality groundwater or distributing treated water from another plant are inspected every two years. Each district maintains its separate inspection

tracking system. The regions pull together the inspection frequency results quarterly and annually for internal review.

The inspection process

Inspectors prepare for an inspection by reviewing documentation and considering new developments at the facility. Inspectors prepare and print out their EMS inspection checklist (which is essentially a summary of the approval conditions) and use the hard copy to conduct and document the inspection. The Department expects inspectors to issue an inspection report to the approval/registration holder within 30 days of the inspection. The report contains a letter summarizing contraventions and outlining the required corrective action, as well as a copy of the completed EMS inspection checklist. The letter also requests a written response from the approval holder outlining how they will address each contravention. Inspectors are responsible for ensuring that contraventions are resolved or referred to appropriate staff within the Department for follow-up.

Criteria: the standards we used for our audit

The Department should monitor compliance with, and enforce, its regulatory responsibilities.

Our audit findings

We examined the inspection history of 30 facilities

We examined a sample of inspection files for 24 municipal and 6 industrial waterworks systems[15]. The Department's six districts were equally represented in the sample. We examined the inspection record of these 30 facilities for the 2003–2004 fiscal year onward.

The inspection frequency targets do not apply to private EPEA facilities

Based on our sample, the frequency target was met for municipalities but not for private or industrial facilities. Of the 24 municipal samples, we identified three facilities for which the inspection program did not meet the Department's frequency targets. These were small systems not owned by a municipality, including a provincial park, a roadside diner, and a golf course. These can be difficult to inspect because they are seasonal, but they should be inspected on the same schedule as municipalities' facilities.

[15] For internal purposes, Environment divides its district office work into "municipal" and "industrial" categories. Municipal waterworks include smaller private systems (e.g. co-ops and subdivisions) as well as those owned and operated by municipalities. Industrial facilities are large plants with an EPEA approval to regulate construction, emission levels, and other matters in addition to their drinking water requirements.

Industrial waterworks deserve the same inspection attention

We also examined the inspection record of six industrial facilities (one in each district) that have a water treatment component in their approval. In particular, we looked for industrial facilities that supply treated water to the outside community or water for on-site consumption by large numbers of staff and contractors. Environment inspects industrial facilities on as long as a ten-year cycle. When industrial inspections were conducted in the timeframe we audited, treated water received little, if any, attention in the inspection reports. The same drinking water inspection cycle and quality of inspection should apply whether Environment designates the facility as municipal or industrial.

Inspection tracking systems should be reconciled to EMS

The districts' inspection tracking systems indicated that all municipal drinking water facilities had been inspected according to Environment's frequency targets. However, these systems are not complete; they do not list all the private and industrial waterworks systems that should be inspected. The district offices need to capture all EPEA waterworks facilities on their systems, regularly reconcile their own systems to the official EMS list of facilities, and report complete EPEA quarterly and annual results.

Inspectors should be well trained in waterworks systems

Inspectors conducting waterworks inspections have diverse backgrounds. Many have an environmental sciences academic background and inspect the full range of facilities that Environment regulates. Some inspectors have hands-on experience operating a waterworks system but some have little training in waterworks operations. In our opinion, the inspector should have training appropriate to the complexity of the waterworks system he is inspecting. For example, a Level 3 plant requires an inspector with Level 3 training or its equivalent. The inspector can achieve this through continuing education. We do not view that hands-on operational experience in a waterworks facility is necessary, although it would be desirable.

Environment can improve training support for its inspectors

At this time the Department does not have its own training program for waterworks inspections. Inspectors are encouraged and do enrol in courses offered by others in related fields such as the waterworks operators' certification programs. Recently, the Department created a compliance training officer position out of the Twin Atria office to address the training issue. In 2005, the Department reassigned the officer to the team dealing with the Lake Wabamun spill so he has not completed the anticipated courses and materials yet.

Inspection checklists can be more risk focused

The Department standardized the inspection process with its EMS inspection checklist. The EMS checklist closely follows the template for a municipal waterworks approval. This raises two issues. First, Environment has not updated its checklist template recently. Using an

old approval template does not fit well with inspections of the recently implemented codes of practice. Second, approvals have heavy reporting and paperwork requirements. This means that the inspection can focus on paperwork review rather than an inspection of the plant and its operation. In other words, the current system can be more risk focused.

The new Index begins to introduce more risk-focused considerations

The compliance managers recognize this issue and are introducing the Drinking Water Quality Index to focus on higher risk activities at waterworks systems. The Index builds a foundation for further risk-focused activities. The Index can be even more useful by focusing on the Department's broader goals for drinking water, as expressed in *Water for Life* and its performance measures. The Index looks at performance against the facility's current approval, not against current standards. As a tool to support the goal of bringing facilities up to current standards as promptly as possible, the Index should focus on current standards, not existing approval conditions that may not be current.

Inspectors should follow best practices with checklists

We observed many variations in the way inspectors use the EMS checklist. Standard processes promote best practices across the province.

In some cases inspectors used other forms or checklists.

- Many inspectors did not tailor the EMS checklist to match the conditions and risks of the particular facility being inspected.
- Most inspectors completed a hard-copy EMS checklist during the inspection. In some cases, the inspector and facility operator signed the completed checklist at the end of the inspection. We view this as good practice because it evidences on-site discussion of the inspection and its findings.
- Inspectors often tested on-site for such parameters as chlorine residual and turbidity. With few exceptions, inspectors did not document these tests and results in the checklist or on the paper file.
- Environment should file the hard copy inspection checklist (preferably signed) in the facility's permanent hard-copy file.

Report letters should embody best practices

Inspectors also prepared and filed their inspection report letters in different ways.

- We examined 13 inspections that were documented in EMS but not in the paper file. In these instances the EMS record contained information such as inspection time, date, and completed checklist. However, neither the report letter listing contraventions nor the operator's written response were documented.

- Not all contraventions discovered during inspections are mentioned in the inspection report letters. In these cases, the inspector considered the unreported contraventions to be minor problems that were resolved on site. However, the Department could not provide us with a guideline for determining major vs. minor contraventions.
- Some letters provided a detailed description of contraventions, while others referenced the attached EMS checklist printout. Some letters provided clear directions how contraventions should be addressed by the approval holder, while others simply requested a written response.
- The Department has a guideline that inspectors should issue inspection reports to approval holders within 30 days of the inspection. Of the 67 inspections that we examined, at least 17 inspection reports were issued after the 30-day deadline. For example, one inspection completed in December 2005 had still not been reported at the time we audited in May 2006.
- Not all operators responded to the inspection reports. Our sample showed 15 cases where the file documented no response from the operator.

Professional judgment and risk assessment are key

Our intention in drawing attention to the inspection checklists, indices, and report letters is to encourage best practice by inspectors across the province. We emphasize that inspectors need to exercise professional judgment and focus on important risks as they fill out these documents.

Inspectors should briefly conclude on inspections

Our work included the file review of 30 waterworks systems, job-shadowing 5 inspectors, and interviews with many more inspectors. In general, inspectors did not record a conclusion for their inspections. In our opinion, inspectors should record a brief conclusion for each inspection. In cases where an operator response was received, inspectors did not document whether they felt the contraventions were resolved or whether further work was required. We observed that inspectors regularly communicate with their approval and abatement colleagues, but few inspection files document referrals or corrective action.

Implications and risks if recommendation not implemented

Without routinely inspecting waterworks facilities, the Department will not know whether facilities comply with Alberta's drinking water legislation and regulations. Without adequate training, inspectors may not recognize significant compliance and operational issues at a waterworks facility. Appropriate documentation forms a foundation for understanding the operating and inspection history of a regulated facility. Unless inspectors communicate the results of their inspections to the facility operators, identified contraventions may not be addressed at the facility. Without concluding on inspections, the Department will not know if the issues have been resolved or whether further action needs to be taken.

5.3 Communicating with partners

Recommendation

We recommend that the Department of Environment at the district level expand its communication with partners involved in drinking water matters.

Background

Many partners have drinking water mandates

At the boundary of its drinking water jurisdiction, Environment comes in contact with many partners exercising their own safe drinking water mandates. These partners include regional health authorities, municipalities and counties, federal agencies with an interest in public health or aboriginal matters, national and international organizations, and other Alberta government departments and agencies.

Edmonton corporate office interacts with many partners

There are many mechanisms for the Edmonton corporate office to deal with partners. The provincial technical advisory committee includes representatives from Environment, Health and Wellness, regional health authorities, Health Canada, and others. It organizes actions at the provincial level to promote consistent drinking water standards no matter who the regulator. The Department has begun an initiative to address First Nations drinking water issues. Environment's corporate office staff also represents Alberta on national committees.

District offices routinely deal with municipalities and RHAs

Regional and district offices deal with municipalities on routine approval and inspection business. They are also in contact with regional health authorities in emergency situations such as a failed bacteriological test. Abatement officers also deal with municipalities and other partners as part of their responsibilities.

Criteria: the standards we used for our audit

The Department should have systems in place to support the delivery of its drinking water program and businesses.

Our audit findings

Environment has not identified some waterworks that should be regulated

It is possible to build and operate a waterworks system without getting the required approval or registration from Environment. Typically in this situation the waterworks owner and operator is a private entity, not a municipality. The system may originally have been too small for regulation but has expanded and now qualifies for regulation. Or the community simply did not know or care to get the appropriate approval or registration. Some waterworks systems have operated for decades without proper regulation.

Regular meetings with partners can identify systems that should be regulated

Most of Environment's district offices do not have a system to identify facilities that should be regulated but are not. They rely on discovering these unregulated facilities in the course of business. Calgary was the only regional or district office that had a system to identify and deal with these systems. Calgary office staff meet with the regional health authority every two months. Calgary has identified and subsequently regulated about 20 previously unknown waterworks over the last decade. Environment's offices can build on this lead to implement a system to communicate with partners.

Regular meetings also contribute to achieving drinking water goals for all Albertans

There are further benefits to communicating with partners at the regional or district level. This activity pushes down to the regional level the actions of the province-wide technical advisory committee. It also supports *Water for Life*'s vision of safe drinking water for all Albertans, no matter where or under what jurisdiction they may live. Regular regional or district meetings improve communication with others interested in drinking water matters. For example, Calgary has begun to deal with unregulated waterworks systems that have long-term boil water orders in place. The Spruce Grove office is planning to interface with municipalities to ensure that parties understand their drinking water responsibilities.

Implications and risks if recommendation not implemented

Without regular communication at the regional and district levels, the Department misses an opportunity to promote its drinking water goals locally. In addition, local communication reinforces the Department's regulatory mandate with its drinking water partners.

5.4 Waterworks operators

Recommendation No. 3

We recommend that the Department of Environment, working with its drinking water partners, update its strategies to deal with the Province's needs for certified water treatment operators.

Background

Environment certifies waterworks operators

The Department of Environment certifies water and wastewater operators to ensure that operators at regulated facilities possess appropriate knowledge and experience. The Department manages the certification examination process, issues operator certifications, and ensures that certification renewal requirements are met by each operator. To support its operator certification business, the Department designates two full-time staff positions exclusively to operator certification matters.

Certification courses and renewals

The Department's Alberta Water and Wastewater Certification Advisory Committee reviews and recommends changes to certification policy and instructional materials. The Alberta Water and Wastewater Operators Association (AWWOA) delivers certification courses. All certifications have to be renewed every three years. To renew, an operator has to take a defined number of training hours in the last three years and accrue relevant work experience. The operator must attach his exam marks or course completion certificates to the renewal application and a supervisor must sign-off on the operator's work experience.

Criteria: the standards we used for our audit

The Department should have systems in place to support the delivery of its drinking water program and businesses.

Our audit findings

Operators are critical to safe drinking water

Waterworks operators are critical to safe drinking water. The Walkerton tragedy emphasized the importance of the operator in providing safe drinking water and mitigating dangerous circumstances. Because water treatment standards and technology continue to evolve, operators need to stay current.

Rural Alberta needs certified operators

However, rural and small-town Alberta does not have as many certified operators as required. Smaller municipalities have limited budgets and do not pay operators as much as larger municipalities or industrial facilities. As a result, many certified operators leave for higher-paid positions in cities or industry. The *Facility Assessment Report*[16] pointed out that "wages appear to be one of the biggest impediments to attracting and retaining operators". The *Report* also commented on issues with technical expertise, noting that "many small facility operators do not fully understand the CT concept"[17].

[16] The report is on the *Water for Life* website: http://www.waterforlife.gov.ab.ca/docs/Assessment_Report.pdf. The quotations in this paragraph come from p. 7-2.

[17] CT refers to chlorine disinfection. CT means Concentration of chlorine multiplied by Time of contact with the water. This calculation demonstrates an appropriate level of disinfection in drinking water. CT is Alberta's current disinfection standard.

Environment's long-term solutions include regionalization and contracting out

The Department's longer-term answer to these issues includes regionalization and contracting facilities' operations. Regionalization means a waterworks system where smaller communities receive treated water from larger, hub facilities through regional distribution lines. Contracting means a municipality would not have its required certified personnel on staff themselves. Rather, the municipality would contract with another party to provide the service. In some cases, the service might include remote electronic monitoring so that the performance of facilities in small communities could be overseen by certified staff at a distance.

Short-term solutions

In the meantime, the Department also promotes short-term solutions such as sharing a certified operator with a neighbouring community that does not have its own operator. In this scenario, an operator from a nearby town attends the facility periodically and supervises full-time but uncertified staff who do most of the day-to-day work. The problem with this arrangement is that the short-term solution can continue indefinitely. For low-risk waterworks systems, the Department can issue conditional certifications to temporary operators, requiring them to fulfill certification requirements by a certain date. Communities have operated under a Boil Water Advisory until a certified operator can be found.

Certification examinations need to be updated

The Department can further support or improve operator-related initiatives. The Department's system supporting the certification examination process requires attention. Over the past two decades, the number of certified operators has risen from 300 to 2,000 and the three-year renewal was implemented during that period. However, the number of staff working on certification matters has fallen from three to two. At present, the certification group does not have a technical resource available to upgrade its pool of examination questions. That means that questions do not cover current developments such as Alberta's new *Standards and Guidelines*.

Environment can encourage more candidates to train

Environment can influence an increase in the supply of trained operators. It can begin by promoting the merits of the certification to potential candidates. Not all operators need university degrees; the job can offer a career for high school graduates that do not want to go to university. NAIT's water and wastewater program graduates about twenty students per year. These graduates are in demand. However, NAIT is the only institution to offer this program in Alberta. The Department should consider promoting another program at SAIT or other educational institute because it would help if the supply of trained operators could expand. Many years ago, the Department ran the operator training program. That program has moved to the Alberta Waterworks and

Wastewater Operators Association. The Department should promote further educational opportunities by encouraging more course delivery through distance learning or on-site programs.

Environment can encourage municipalities

The Department can influence the municipalities to plan for succession and to build capacity. For example, in its dealings with municipal councils and administrators, Environment personnel can reinforce the value of a certified operator to the community. The Department can also encourage formal agreements between municipalities to share operator resources would support economic and efficient use of trained personnel. Starting in 2006–2007, the Drinking Water Branch has three-year funding under *Water for Life* to advance projects of this nature. The Branch plans to partner with associations such as the AWWOA, the Alberta Urban Municipalities Association, and the Alberta Association of Municipal Districts and Counties to achieve these objectives.

Environment can partner to support operators

In the past, the Department's support for operators included other initiatives. For example, the Department coordinated the preparation of the Alberta Operators' Newsletter. Due to staff shortages newsletters have not been prepared since 2002. Further partnership with entities like the AWWOA or action by the Department itself could reinstate communication mechanisms like the newsletter.

Implications and risks if recommendation not implemented

Without sufficient certified waterworks operators, Alberta's drinking water regime faces increased risk.

5.5 Information systems

Recommendation No. 4

We recommend that the Department of Environment improve the information systems used to manage its drinking water businesses by:

- **Updating EMS forms and improving reporting capacity,**
- **Coordinating regional, district, and personal information systems to avoid overlap and encourage best practice, and**
- **Using data to improve program effectiveness and efficiency.**

Background

EMS is the corporate information system

EMS is the major corporate automated information system for drinking water and many other Departmental mandates. For drinking water, there are EMS components to record: stakeholders; facilities; approvals and registrations; inspections; investigations; monthly and annual data reports from facilities; and many more.

Corporate and regional offices operate other province-wide systems

In addition to EMS, there are other department-wide information systems that impact the drinking water program. The corporate office created and maintains the Laboratory Data Quality and Facility Assessment Update databases. The regional compliance staff are building the Drinking Water Quality Index database for a province-wide purpose.

District offices have their own information systems

Regional and district offices have built their own information systems. Some of these information systems are relatively sophisticated. With the corporate office's help, the northern region developed a database to collect management information about its inspection business. The northern region also developed and maintains its abatement database that records abatement activity and makes facility data available to Environment staff. Many regional and district systems run on software such as Excel spreadsheets.

Individual employees have their own systems

Individual employees maintain their own information systems that contain important corporate data. For example, each abatement officer maintains an Excel template to record his activities.

Criteria: the standards we used for our audit

Automated information and management systems used to support the ministry's drinking water program should be well designed and operate efficiently and effectively.

Our audit findings

EMS forms and functionality for drinking water need updating

EMS issues—for drinking water matters, EMS contains old forms and functionality that need to be revised. For example, the inspection template for approvals needs to be updated for recent changes in standards. As well, there is no inspection template for registrations. Some functionality does not seem to work for regional staff members. For example, at least one inspector's to-do list was filled with facilities for which he was not responsible. In addition, functionality has been added over the years to cover specific initiatives, but when the initiatives are completed the EMS components remain to clutter the application.

Data capture by EMS is largely manual and time consuming

Data capture used to be largely centralized. Entry responsibility for much of EMS data passed to regional staff. Various data elements in EMS have not been entered and kept current. Standing data about facilities (e.g. contact names and numbers), facility operating data (e.g. monthly reporting), and Environment's own operating data (e.g. diarized future actions, documentation of inspections and incidents) is incomplete or untimely. Manual data entry makes it daunting to update even inspections let alone large annual reports from facilities. The electronic reporting initiative that we discuss in Recommendation No. 5 would help in this matter.

Regional staff find it hard to extract summary data from EMS

Staff find it difficult to extract meaningful summary data from EMS. Training is provided on an ad-hoc basis by corporate staff, but many regional staff have received little training and do not feel comfortable with EMS. They will record what they have to record but then use the tool sparingly thereafter. While regional staff do not use it, we did not see examples of centrally processed reporting that proved useful to the regional staff.

EMS issues lead staff to build overlapping systems

Overlapping systems—as a result of the difficulties in using EMS to manage the drinking water business, staff around the province have built their own systems. These systems compensate for shortcomings in EMS and in theory could integrate with EMS if necessary. In reality, the situation leads to overlapping, orphan, and unprotected information systems.

Not all of the Department benefits from these overlapping systems

Some of the overlapping systems can be accessed by individual employees or perhaps by particular regional or district staff. However, where these systems provide useful functionality, they are not always available to others who might want to use them. For example, the Northern Region developed the CIPS database to track inspections and the Abatement Database to provide access to facility data and record abatement activities. Both systems overlap EMS functionality, which would not be necessary if EMS were more user-friendly. The Department could look at CIPS and the Abatement Database as successful pilots. Unfortunately, the other regions do not on the whole know that these systems exist. All districts have developed similar databases to cover CIPS functionality. We did not find another region with a system to deliver the functionality of the Abatement Database. Greater coordination of these database initiatives could offer greater effectiveness and economy to the Department.

Issues of data security, completeness, and integration

Some of the regional and district systems are more sophisticated than others, but most are operated without strong access and data integrity controls. For instance, most do not periodically reconcile overlapping data to EMS (the official corporate system) or have controls for entering standing or transactional data. We already mentioned the district systems to monitor inspection activity. Every overlapping system has its own design features. Should the Department implement a corporate system to eliminate these regional systems, data integration across the province may be complicated.

Environment can use drinking water data more effectively

Using data—we can point to success with many regional or district systems. The Abatement Database provides analytical power to the abatement officer. Systems such as EMS and the Facility Assessment Update Database are the source for the government and the Department's drinking water performance measures. But we can also point to many cases where data is not now being used effectively.

An example is operating data reported by facilities

An important case involves monthly drinking water reports from facilities. This contains detailed data on turbidity, chlorine levels, and other approval and *Standards* requirements. Environment could analyze that data for historical and proactive purposes. Historically, it tells a story about the regulatory requirements and performance of each facility. Proactively, it can indicate trends and seasonal events that alert regulators to the need to do something (e.g. further testing or new technical requirements). Operationally, automated data enquiry is more efficient than manual review. But right now, with the exception of those accessing the Abatement Database in the northern region, using monthly reports is paper based, time consuming, and subject to the capability of the person reviewing. Except for occasional review by an abatement officer, this data is reviewed once a year for regulatory purposes only by the inspector. This data can be much more valuable to the Department.

Implications and risks if recommendation not implemented

Without effective information systems, the Department will not be able to access and use drinking water data to make its program more effective or to improve its own administration of the program. Without coordinated information system development and operation, issues of efficiency, data accuracy, and integrated corporate use of data may arise.

5.6 Supporting Environment's drinking water goals

Recommendation No. 5

We recommend that the Department of Environment ensure that its legislation, programs, and practices support its new drinking water goals. This includes:

- **Clarifying how approvals will move facilities towards current standards;**
- **Delivering central initiatives that enhance the drinking water program;**
- **Determining how the Department should promote policy initiatives such as regionalization, including the financing of those initiatives;**
- **Establishing how the Department can partner with others while mitigating the risks inherent in partnering; and**
- **Reinforcing a "beyond compliance" mindset with Department staff.**

Background

Drinking water goals propose rapid upgrades to existing facilities

Environment has promoted safe, secure drinking water for decades. In the last few years, the Department and the Alberta government have developed progressive goals for drinking water in the province. Documents such as *Water for Life*, Environment's *Annual Plan* and *Annual Report*, and ministry performance measures express these drinking water goals. The goals encourage Alberta's waterworks systems to meet current standards and guidelines. The "Foreword" in the *Standards and Guidelines* notes that existing facilities may not meet the current standards and proposes:

> that all waterworks systems that hold an approval or registration be upgraded to meet these new standards before April 1, 2012. The system owners / utilities are also expected to develop ... a five-year capital plan before April 1, 2007 to upgrade the system.

Environment staff should support drinking water goals

The *Facility Assessment Report* supported these goals by providing key data and analyzing regionalization and contracting options across the province. Regional staff such as approval writers, inspectors, and abatement officers are expected to promote these goals when dealing with municipal councils, administrators, facility operators, and other partners.

The Drinking Water Branch in Edmonton develops goals, policies, standards and guidelines, and some program elements. Other corporate office units generate initiatives such as electronic reporting that impact many businesses, including drinking water. The three regions (with two district offices in each region) develop some province-wide initiatives and deliver most of the drinking water program in the field.

Criteria: the standards we used for our audit

The Department should ensure that its legislation, regulation, standards and guidelines support its drinking water goals. On a regular basis, the Department should update approval/certification, inspection, and abatement practices, including training and support materials for those functions, to reflect recent developments.

The Department should have systems in place to support the delivery of its drinking water program and businesses.

Our audit findings

Regional staff not consistent in supporting these goals

If the Department is to succeed with its drinking water goals, staff need to integrate these goals into their everyday activities. Staff in the Drinking Water Branch have the advantage of developing the goals and related initiatives as part of their routine responsibilities. Regional staff deal more with individual facilities and operators, so their challenge is to turn the Department's goals into action in the field. However, regional staff have received mainly informal direction how to adjust their day-to-day work in support of new initiatives. Discussions with regional staff showed that many were uncertain how they could best support the success of the Department's goals. Practices across the province did not consistently support the new goals.

Approvals do not support rapid upgrades for facilities

Approvals—approvals are an important driver in drinking water. The Drinking Water Branch recently reviewed all of the 200-plus surface water approvals. Of these, 150 did not require the facilities to meet the new 2006 standards; of the 150, 99 include pre-1997 *Standards and Guidelines* conditions. Our audit samples demonstrated the same issue. Eight of the nineteen approvals that we examined did not put the facilities on track to meet the new standards.

How to deal with imminent changes to standards not clearly defined

One inconsistency relates to renewals when new *Standards and Guidelines* are imminent. Our sample approvals were generally written when the 2006 *Standards and Guidelines* were proposed but not officially released. Approval writers knew of the impending changes and should have targeted the new standards. In many cases, facilities that could meet the new standards were given an approval based on the new standards. Facilities that could not meet the new standards were allowed to follow existing conditions in their renewal.

How and when to grandfather existing facilities not clearly defined

Another consideration in approval writing is grandfathering existing conditions. The legislation allows grandfathering but when and how to apply the practice is not clearly defined. In many cases, approval writers will renew facility approvals without obliging the facility to move towards current standards. However, a specific drinking water goal is to bring facilities up to current standards. On renewal, some approval writers grandfather older facilities, some write in a condition for consultant's studies to determine whether the facility can meet current standards, still others require the operator to prepare a plan to upgrade. In many cases, the approval writer tailors the approval to accommodate the facility owner's capacity, both financial and operational, to meet the conditions. We did not see clear direction how to deal with grandfathering.

Amendment to regulation will help clarify

Plans to amend the *Potable Water Regulation* may address the problem by requiring facilities to meet new *Standards and Guidelines* as they are released. Passing this amendment will provide a legislative foundation for staff to move more aggressively. However, it is just one piece in the puzzle. Requiring facilities to meet current standards may only lead to increased non-compliance unless municipalities can upgrade to meet the new standards.

Delivery of initiatives can improve

Central initiatives—all three initiatives that we discuss in this section have merit. They address issues of program effectiveness and efficiency. However, they also illustrate how the delivery of these initiatives can improve. Many of Environment's initiatives slow down, stall, or do not deliver the results contemplated.

Electronic reporting initiative

The electronic reporting initiative started in 2001. The first objective of electronic reporting is to get waterworks facilities (and other regulated entities) to report to the Department electronically. These facilities have monthly and annual data reporting requirements under their approvals. The reporting is onerous with pages of data that the Department enters into its automated systems manually. Reports were piling up at the central and regional offices and no one could use them effectively. The second objective is to make the data publicly available on an Alberta Environment website.

Few drinking water facilities participate in data collection

The Department has not widely implemented the program yet for drinking water. Participation in the project by municipalities is voluntary. According to the Department's latest update in June 2006, fewer than 10% of Alberta's facilities report electronically; 65% of facilities do not participate in the program in any way. None of the province's largest systems such as Edmonton or Calgary report electronically. Technical issues and insufficient budget have delayed the project.

Public reporting not yet operational

The Department has not rolled out the public reporting component either. Technologically, the software may be ready for public access soon but there are still questions about which data to make available and whether enough data exists to make the project useful. Making this data publicly available is critical in empowering Albertans to determine whether their drinking water is safe.

As a result, hard copy data accumulates but is difficult to use

The result is that waterworks facility data still accumulates in departmental offices and is not entered promptly to the Department's information systems. In paper form, the Department cannot use this data centrally to check historical compliance or to predict trends and issues. Having this data on a central database would support an efficient, automated, province-wide system to interrogate the data on behalf of the regions.

Treated Water Survey

For decades, the Department has undertaken its annual Treated Water Survey. The Survey provides a snapshot of the province's drinking water quality. This view is separate and independent from the results that the facilities themselves submit under their approval requirements. The Survey can also target specific current drinking water issues that are not covered by routine monitoring, such as the incidence of pharmaceuticals in drinking water.

Annual analysis and reporting of results no longer performed

The Survey has declined in recent years. Through the 1990s, central Departmental staff analyzed the data on EMS and created an annual report that focused on trends in drinking water around the province. Around 2000, the analysis and annual report stopped due to human resource issues, and funding for the sampling shrank. Given available funding, not all facilities are sampled each year. Centrally, the data is still entered in EMS but the Department takes no further analysis or action. The Department does not report on or follow up the Survey results.

Regions bear many costs but do not see summary results

Each district office receives funding for the Survey each year but it covers only laboratory costs. All related costs such as transportation and resource time to take the samples must be borne by the district office. Regional staff question how important the Survey can be given there are no longer annual results from the project.

Laboratory Data Quality Assurance

Like Electronic Reporting, the Laboratory Data Quality Assurance initiative covers more than drinking water matters; it is a joint Environment and Sustainable Resource Development initiative. It is a three-year project to assure the departments that lab data coming to them from regulated facilities is reliable[18]. For drinking water matters, most activities in the project are handled by the Drinking Water Branch.

[18] For details of the policy, procedures, and guidelines for the program, see Environment's website: http://www3.gov.ab.ca/env/protenf/standards/labdata.html.

High failure rate in site evaluations but no remediation planned

The program now has about three years' data collected. The Department is considering whether the program needs an extension. With the program near its conclusion, there are important follow up issues. One part of Laboratory Data Quality Assurance deals with "site evaluation". Inspectors contracted by the program visit regulated facilities with larger labs to evaluate laboratory processes first hand. We looked at 20 site evaluation samples; 15 did not meet requirements. Currently, no follow up procedures are in place for site evaluations. This means that the Department knows that most facilities do not meet its lab procedure standards but has not begun to remediate the problem operators.

Issues with regionalization and contracting not defined and addressed

Regionalization—regionalization and contracting facilities' operations are the government's longer-term answer to many drinking water issues in the province. These actions will require the coordination of many related issues. For example, in southern Alberta the issue of adequate water license capacity arises. How can regionalization work when the water treatment license holder does not have the water to meet demand for a regional system? Municipal politics also plays a key role. For a regional distribution line to work, all communities along the line should join. But for many municipalities, having their own system is a matter of prestige. As well, they worry that their future (in the form of access to an adequate and affordable supply of water) is in someone else's hands, whoever treats the water. One municipality in the middle of a proposed distribution line that does not join the system can undermine the process. The Department needs to develop a plan to deal with the challenges of regionalization.

Stable funding for drinking water goals not in place

Funding key initiatives such as regionalization will be critical to meeting the goals of the Department. The *Facility Assessment Report* estimated $100 million per year would be required for 10 years. Funding has traditionally come from Infrastructure. Infrastructure funding for assistance for communities under 45,000 people is $50 million per year. One-time funding for regional initiatives in 2005–2006 added another $54 million to Alberta Infrastructure's budget[19]. However, neither Environment nor Infrastructure has established a program with stable funding for the initiative.

Issues with partnering not defined and addressed

Partnering—the Department also wants to partner to meet its drinking water goals. This means placing greater reliance on operators, administrators, water well drillers, engineers, and other parties to ensure drinking water quality. Of course, one only wants to partner with those capable of meeting their obligations. The Department knows that some

[19] Note that the $54 million is for both drinking water and waste water projects.

members of these parties do not have the capacity to partner. For example, we have already discussed the issues with certified operators. So the Department needs to remain vigilant while implementing its partnership initiative. We did not see a plan or process to implement this policy direction while mitigating the risks inherent on relying on others.

Overall mindset in Environment needs to embrace drinking water goals

The "beyond compliance" mindset—the mindset in the Department needs to adapt to the new drinking water goals. Many staff now judge their actions in terms of compliance with legislation and regulation. Some have told us that they do not feel they have the authority or mandate to enforce the new goals of *Water for Life* or other drinking water initiatives. To meet Environment's drinking water goals, staff need to ask how each of their actions promotes those goals. It will change how they deal with their clients and do their business.

Implications and risks if recommendation not implemented

The Department risks not achieving its goals if practices in the field do not promote those goals. In many current cases, the Department accepts that regulated waterworks systems that cannot meet current standards can continue to operate, which implies increased risk.

Without completing central initiatives on time, on budget, and with the expected functionality, the Department's drinking water program may not be as effective or efficient as possible in promoting safe drinking water.

Without a course of action to promote policy initiatives such as regionalization or partnering, those initiatives may not succeed. For example, lack of stable funding undermines confidence for those promoting or possibly benefiting from the program.

Departmental staff in the regions need to understand, accept, and promote the new drinking water goals. Without their support, the Department may not be able to achieve its goals.

Food Safety

1. Summary

Food safety programs operate in a complex, evolving environment

Food safety is an important human health concern. Advances in health care and food production have reduced the risk of foodborne disease. However we cannot eliminate food safety risk completely. Foodborne illnesses and outbreaks still take a significant toll on individuals, the health care system, and the economy. Food safety practices take place in a complex environment. Food production techniques and our eating habits evolve; the science and technology related to food production also change. These changes unfold in a regulatory context of national and international departments, agencies, and organizations. Alberta's food safety systems need to stay current and effective.

Our report focuses on Alberta's food safety regulatory systems

In this report, we look at provincial regulatory responsibilities for food safety. We did not audit the federally regulated system that oversees food production produced in Alberta but sold outside the province. Our audit looks at the Alberta government systems that promote safe food. Broadly speaking, the Department of Agriculture, Food and Rural Development regulates aspects of primary production and processing under several acts and regulations. The Ministry of Health and Wellness is responsible for the *Public Health Act*. The Act focuses on further processing, distribution, and retailing. The Department of Health sets legislation and policy while the regional health authorities deliver programs in the field.

Inspection programs at the regional health authorities need to improve

Alberta's provincial food safety regime has been, and is still, largely based on inspection programs. The regional health authorities' inspection programs need attention. Eight of nine regions have not met their targets for inspections. Inspections often identify critical violations in food establishments, but generally the regions do not follow up these cases to ensure that the problems are rectified. As well, regions do not often use their enforcement powers under the *Public Health Act* to bring long-time offenders into compliance. As a result, food establishments with poor food safety practices continue to operate.

Agriculture's inspection and investigation programs can improve

The Department of Agriculture also runs inspection and investigation programs. Meat inspectors attend virtually all slaughters in the province, so frequency of inspection is not an issue. However, the program can improve. For example, meat inspectors can better use their automated information system, Agridam, to record, monitor, and manage public complaints, non-compliance by operators, and held tags on slaughtered carcasses. The Department should also bring inspections in the dairy sector up to date.

Alberta can implement or improve its innovative food safety programs

Around the world, regulators and the food industry itself have developed innovative programs to complement inspection. For example, some jurisdictions have mandated that food establishments implement control-based food safety systems such as the Hazard Analysis Critical Control Point (HACCP)[1] system. Alberta often prefers cooperative effort to legislation, but the key is to implement effective programs. Our report highlights several opportunities to improve the effectiveness of Alberta's programs. The Department of Health and the regional health authorities should consider a wider range of tools to promote and enforce food safety. HACCP and Dinesafe[2] are two promising initiatives in the public health field. The Department of Agriculture has run its surveillance program for about five years. This program can improve by involving more partners in prioritizing its projects, monitoring the impact of individual projects, and strengthening administrative practices.

Regulators can improve cooperation amongst themselves

Communication and cooperation between the provincial regulators and between the provincial and federal regulators can improve. Alberta has created coordinating mechanisms such as CAPIFS[3] and the health regions have their DC9 committee[4]. However, each provincial food safety regulator largely plans its programs and initiatives independently. The province does not have a coordinated food safety policy or integrated planning processes. For example, Agriculture is promoting HACCP implementation across the province but had not discussed its plans with the regional health authorities. Provincial regulators can also improve their coordination with federal authorities such as the Canadian Food Inspection Agency and the First Nations and Inuit Health Branch.

Existing gaps in food safety regulation

Poor cooperation manifests itself in program gaps. We report on cases where the regulators have not addressed known food safety risks. Recommendation 5.9 of page 102 discusses mobile butchers, processing plants covered by Alberta's Meat Facility Standard, and the non-federally regulated sector in Alberta. While these are relatively small and isolated cases, they indicate that the system can be better coordinated.

Information systems should improve to help manage food safety progress

Alberta's food safety regulators should strengthen their information systems. Each regional health authority but one uses a computer system to identify permitted establishments, record inspections, and manage their program.

[1] For a description of HACCP, see p. 72
[2] For a description of Dinesafe, see p. 83.
[3] Canada-Alberta Partners in Food Safety. See pp. 71 and 98 for details.
[4] DC9 are the directors of Environmental Health units, one from each of the nine regional health authorities. See pp. 72 and 98 for details.

There are three different software packages in use and all have issues with system management, security, and controls. Data is not consistent across the province and most regions cannot develop useful reports for management purposes. To manage its surveillance program, the Department of Agriculture is developing and implementing new systems to replace aging applications. To convert to the new applications, Agriculture needs to collect and organize its data so that all data is transferred accurately.

Accountability for food safety can improve

Coordination and information system issues undermine the ministries' capacity to produce joint accountability reporting for food safety. In particular, Health does not collect information on the regions' food safety programs and results. The two ministries should also improve the performance measures used to gauge the success of food safety initiatives.

2. Audit scope and objectives

Audit objective

Our objective was to determine whether the government of Alberta's regulatory and program systems effectively and efficiently promote food safety in the province. We determined audit criteria that provided us with a base from which to examine the government's food safety systems. By aggregating the conclusions and findings from our audit, we can conclude on the government's food safety systems in general.

Entities audited

Our Food Safety audit included Alberta Agriculture, Alberta Health, and the nine RHAs. Essentially we examined calendar 2004 activities in Alberta Health and the RHAs and fiscal 2004–2005 activities in Alberta Agriculture. As well we interviewed representatives from Health Canada, the Canadian Food Inspection Agency, and the First Nation and Inuit Health Branch. We do not have the authority to audit these federal entities but they cooperated insofar as being interviewed and providing summary documentation.

Scope of our work

At Alberta Health, we examined the food safety work of the Environmental Public Health group and the reporting, recording, and investigation of enteric notifiable diseases and outbreaks. At each of the nine RHAs we examined the food safety work of the environmental health group. We also reviewed the work of the Medical Officer of Health to identify and report enteric notifiable diseases and outbreaks to Alberta Health. At Alberta Agriculture our work focused solely on the Food Safety Division. One of the Department's goals is to promote agricultural trade but our audit did not cover food safety issues as they relate to market access.

3. Background (overview of food safety in Alberta)

Food safety has evolved over the last century

Importance of food safety—food safety has evolved rapidly in the developed world. A century ago, typhoid fever, tuberculosis and cholera were common foodborne diseases[5]. In 1900, about 100 people per 100,000 population died from gastrointestinal infections in England and Wales. In 2000, the incidence is nearly zero[6]. Improvements in food safety, such as pasteurization of milk, safe canning, and disinfection of water supplies have conquered those diseases.[7] Many microbiological hazards such as botulism and brucellosis have been addressed.

The cost of foodborne illness

Canada has a reputation for safe food. However vigilance is required because foodborne diseases are still a significant issue. As proof, we can look at the medical and public health journals that contain many articles describing the cost of foodborne diseases. For example, an article in the Journal of Food Protection[8] estimated that the cost of medical services for foodborne illness is about $2.4 million annually per 100,000 population. Additionally, we pay $8 million per 100,000 population in lost productivity as a result of those missing work because of their illness.

Alberta experiences foodborne outbreaks

Alberta experiences foodborne outbreaks. In 2004, regional health authorities reported 289 enteric[9] outbreaks to Alberta Health and Wellness. For example in September and October 2004, the Calgary Health Region confirmed 62 cases of E-coli O157:H7. Six people were hospitalized because of this outbreak. Epidemiological evidence indicated a strong association between these cases and the consumption of beef donairs from two restaurants. More recently the Calgary Health Region investigated a hamburger establishment for another outbreak of E-coli O157:H7. An employee who had E-coli himself was the suspected source of these cases. The employee passed along the infection during food preparation tasks.

Foodborne disease difficult to link to a specific source

With foodborne illness, it is difficult to obtain hard evidence. First, foodborne illnesses are underreported. Many patients with acute gastroenteritis do not visit a health care provider or do not submit a specimen for laboratory testing. A study in the Canadian Journal of Public Health[10]

[5] Foodborne illnesses are defined as diseases, usually either infectious or toxic in nature, caused by agents that enter the body through the ingestion of food. Today's common foodborne illnesses include campylobacter, E-coli O157:H7, giardia, hepatitis A, samonella, shigella, and yersinia.
[6] "The Economist", February 26, 2005, p. 56.
[7] CDC Disease Listing, Foodborne Illness, General Information
[8] "The Burden and Cost of Gastrointestinal Illness in a Canadian Community".
[9] Enteric means "occurring in the intestines" (Canadian Oxford Dictionary). Not all enteric diseases are foodborne although determining the source is often difficult.
[10] "Estimating the Under-Reporting Rate for Infectious Gastrointestinal Illness in Ontario".

estimated that only one in 313 cases of gastrointestinal illness will result in a lab-confirmed case being reported to the province. Second, it is difficult to link a particular case definitively to a source. As many enteric diseases take 48 or more hours to develop, by the time the potential source can be investigated all remaining food from the meal in question has been discarded. Often links can only be made during outbreak situations. Third, it is difficult to link the existence and nature of preventative measures directly to human health results. Still, we know that food represents an important vehicle for pathogens causing acute gastroenteritis and that food safety controls will over time reduce the incidence of disease.

Consumption habits are changing

Despite the absence of hard evidence about foodborne illnesses, food safety practices continue to evolve. Three factors drive the evolution of food safety practices. The first is people's consumption habits. In the past, families ensured safe food by storing and preparing foods carefully. More frequently than ever, people eat food prepared outside the home where they do not control these processes. Albertans also rely on more prepared foods inside the home, some locally prepared and some national or international in origin. Albertans expect these foods to be safe, so there is pressure on government entities to ensure safety in a wide range of food establishments and products.

Food technology is changing

Second, there is a continual evolution of food technologies and new food products. Many of these new foods require little or no preparation before eating so food safety must be built in at the processing stages. Traditional practices for mitigating bacterial contamination have often been replaced with more sophisticated processes, including the use of food additives. This points to the need for process control in food establishments.

Science offers new insights into causes

Third, science increases our understanding of the underlying causes of foodborne illness. Laboratory tests can now identify microbes that were previously unknown, so newly recognized microbes are emerging as public health problems. In the last 15 years, several important diseases of unknown cause have turned out to be complications of foodborne infections. For example, the most common cause of acute kidney failure in children is infection with E-coli O157:H7 and related bacteria. Regulatory officials provide one element in the food safety continuum. Failures in the food safety system can have serious human health impacts.

Participants in food safety—in Alberta, we read about the occasional outbreak or food recall, or we see seasonal food handling warnings such as "thoroughly cook your hamburgers during barbecue season". Many Albertans may not be aware of the organizations responsible to regulate food safety in the province.

Agriculture and health regulatory sectors

There is a division of responsibility between agriculture and health ministries at both the federal and provincial levels. Broadly speaking, agriculture regulates food production and primary processing while health regulates further processing, transportation, storage, retail, and restaurants. The health sector also collects data about and investigates notifiable diseases and outbreaks. Health and agriculture officials collaborate on particular food borne illness outbreaks in Alberta following a protocol agreed by the parties. Ultimately the health sector also treats persons infected with foodborne illnesses. The federal and provincial ministries both use government agencies to deliver food safety services.

CFIA, the federal food safety regulator

The federal government created the Canadian Food Inspection Agency (CFIA) in 1997. The CFIA reports to the federal Minister of Agriculture and Agri-Food. The CFIA administers and enforces thirteen federal acts including the *Canada Agricultural Products Act*, *Meat Inspection Act*, *Consumer Packaging and Labeling Act*, *and Food and Drugs Act*. As its name suggests, the CFIA handles all food-related regulatory activities in the federal agriculture, health, and fisheries ministries.

Alberta Agriculture's Food Safety Division

In March 1999, Alberta's Department of Alberta Agriculture, Food and Rural Development (Alberta Agriculture) consolidated its food safety and regulatory activities in the Food Safety Division (FSD)[11]. Broadly speaking, the Division administers three food safety businesses. First, the Division regulates through programs such as meat slaughter inspection and investigation pursuant to eight provincial acts. Second, the Division operates a food safety surveillance program. Surveillance is essentially a research and follow up program. The Division designs and runs projects where staff identify a food safety risk, actively gather samples in the field, analyze the samples in their laboratories, and report the final data and project conclusions in reports and transfers that information to producers and processors to change practices. Third, the Division advocates for the implementation of preventative food safety control programs amongst Alberta's producers and processors. The Division's senior management represent Alberta on several national food safety committees.

[11] The new Division brought together Alberta Agriculture's regulatory, food safety, and animal health activities. Since we completed our audit, Alberta Agriculture has split the regulatory activities into a separate Division. Select recommendations that follow will need to be addressed by both FSD and Regulatory Services Division.

Food safety is a component of environmental & public health

Food safety is one component within the environmental health and public health disciplines. Environmental health is an established discipline that covers issues such as food safety, clean air, drinking water, and the built environment. Public health contains environmental health plus programs such as vaccination and epidemiology. Within this context, food safety is a small segment of the public health discipline and a miniscule proportion of overall health costs.

Health Canada

In Canada's public health sector, each province and territory has its own public health legislation and public health priorities, resulting in 13 separate public health systems. There is no federal *Public Health Act* or equivalent. As we mentioned, the CFIA administers Health Canada's regulatory requirements. Health Canada itself is involved in food safety policy development, surveillance, and risk assessment. Health Canada's First Nations and Inuit Health Branch provides medical services, including public health services, to on-reserve Albertans.

Alberta Health's Disease Control & Prevention Branch

Alberta's Department of Health &Wellness (Alberta Health) contains the Population Health Division[12]. The Division has four branches, three of which are important to food safety. The Disease Control and Prevention branch is critical. Its Environmental Public Health group has three staff. They update environmental health legislation, regulation, and standards and coordinate provincial programs such as food handler's training and certification. The senior manager of the group represents Alberta on many national food safety committees. The branch also includes the one-man Canada-Alberta Partners in Food Safety (CAPIFS) group.

Provincial Health Office

The Provincial Health Office provides direction and guidelines to regional health authorities (RHAs) and informs the public about communicable diseases and public health programs. The Provincial Health Officer has broad powers under the *Public Health Act* in cases of communicable disease outbreak and is the liaison between RHAs and the Minister in communicable disease matters.

Health Surveillance Branch

The Health Surveillance branch gathers data on the health of the population and has a role in food safety by monitoring chemical levels in the province's fish and game. Since our audit, Alberta Health transferred the Environmental Public Health group and CAPIFS under Health Surveillance.

[12] Since we completed our audit, the name of the division has been changed to Public Health.

RHAs have inspectors and a Medical Officer of Health

RHAs deliver public health programs to meet the needs of residents in their communities. Each RHA has an environmental health program that issues permits, inspects premises, trains food handlers, and enforces the *Public Health Act* in its region. The public health inspectors in each RHA are executive officers under the *Public Health Act* and deliver most of Alberta's food safety program to the secondary processing, transportation, retailing, and restaurant industries in Alberta. In addition, each RHA has a Medical Officer of Health with powers under the *Public Health Act* regarding communicable disease prevention, detection, and control in their region.

Industry actually delivers food safety

All of these regulatory activities relate to food producers, processors, and associated businesses. Industry is the first line of defence and, broadly speaking, industry is regulated for the public good with regard to food safety. Besides government intervention, economic and trade drivers also influence industry to improve their food safety practices continuously.

Many coordinating mechanisms

Coordinating mechanisms—there are many participants operating with different mandates. With so many participants, coordinating mechanisms are necessary.

International forces often drive food safety

The international forces involved in food safety include the World Health Organization, the Codex Alimentarius, and the North American Free Trade Agreement. These international forces deal with Canadian government departments or agencies. For example, Canada's participation in the Codex Alimentarius[13] is coordinated through Health Canada. Alberta has no direct involvement in deliberations at the international level. The point is that many food safety initiatives are driven by international forces that oblige Alberta to adopt new practices or standards.

Canadian food safety initiatives have evolved

In Canada, jurisdiction for food safety matters is split between the federal and provincial governments. However all participants recognize the benefits of cooperation and consistency. Over time several federal/provincial/territorial (FPT) committees and agreements have evolved to coordinate food safety initiatives in Canada. Alberta's food safety initiatives operate within the web of the FPT committees, sub-committees, and working groups.

Three major FPT committees

Historically, three FPT committees impact Alberta's food safety approach: the Committee on Food Safety Policy, the Agri-Food Inspection Committee, and the Canadian Food Inspection System Implementation Group[14]. The

[13] Codex Alimentarius is the major international mechanism for encouraging fair international trade in food while promoting the health and economic interest of consumers.

[14] More detail on the FPT committees and links to individual websites are available on the Canadian Food Inspection System website: http://www.cfis.agr.ca/english/comln_e.shtml#top.

committees were established in the 1980s and early 1990s to advise on policy, coordinate joint projects, and develop technical standards for food safety issues. Each committee has subcommittees and working groups to address specific issues. Over the years they recognized their common interests and the potential for overlap. They now meet twice a year, with all three meetings held in a three-day period. They try to avoid overlap by having the seven co-chairs meet in advance of the three-day meetings in a group called G715. Senior management of Alberta Health's Environmental Public Health group and Alberta Agriculture's Food Safety Division sit on and have co-chaired some of these committees.

Agricultural Policy Framework

In addition to the three long-standing committees, there are two more recent initiatives. The Agricultural Policy Framework (APF) was endorsed by FPT ministers of agriculture in 2001. The APF will help Canadian agriculture maximize international opportunities through science based agricultural practices. Alberta and Canada signed an APF implementation agreement in 2003. One of the APF's five key elements is food safety and quality. Alberta can receive up to $22 million over three years (ending in March 2008) to help industry implement food safety and quality programs. As well, there is an FPT "Food Safety Quality" working group under the APF.

National Food Policy Framework

The National Food Policy Framework (NFPF) is a federal initiative led by Health Canada that will have senior official representation from both the health and agriculture sides. The NFPF aims to strengthen food safety while developing policy related to food production, distribution, trade, healthy eating, and regulation of food and food systems. The NFPF addresses food policy, of which food safety is one element. In addition to the traditional view of foodborne illness, the NFPF addresses all food-related illnesses including obesity, cardio-vascular, diabetes, etc. It will also address economic and social issues related to food. Its early initiatives include a national food safety strategy and public health goals.

Alberta's coordinating mechanisms

At the provincial level, Alberta has a number of formal mechanisms.

- The Canada-Alberta Partnership in Food Safety is unique in Canada, a coordinating position jointly funded by Alberta Health, Alberta Agriculture, the CFIA, and Health Canada. The participants have developed joint protocols for some activities such as meat facility inspections and outbreak investigation.

[15] This committee became the G8 in spring 2005 when a senior manager in Agriculture and Agri-Food Canada was added.

- The nine directors of the RHAs' environmental health units established the DC9 group. DC9 meets quarterly, shares information, and directs joint projects in environmental health matters including food safety.
- The nine Medical Officers of Health along with the Provincial Health Officer have established COMOSH, another information sharing committee with emphasis on public health issues. Alberta Health participates in both DC9 and COMOSH.

In addition to these formal mechanisms, there is informal contact between and amongst departments and RHAs, especially when particular issues or cases need to be resolved.

4. Conclusions

When regulatory system is stronger, there will be lower risk of unsafe food

When reading our report, Albertans will ask, "Should we feel confident that our food is safe?" From what we have seen the answer is "Yes". There is always food safety risk, but based on trends in reported foodborne illnesses and outbreaks, that risk is relatively small. Our audit specifically looked at the government systems that promote safe food. To the extent that those systems could be more effective or more efficient, then there will be lower risk of unsafe food. However food safety risk will never be completely eliminated.

Concerns about the RHAs' inspection programs

As a result of our audit, we have concerns about aspects of the government's food safety systems. Historically, the government's food safety regime has been and is still largely based on inspection programs. We are concerned that the programs offered by environmental health groups in the RHAs should be more effective and more efficient, and should be delivered more consistently across the province.

Innovative food safety initiatives

In terms of new food safety initiatives, other jurisdictions are implementing innovative programs that complement traditional inspection. For example, other jurisdictions have already mandated that food establishments implement control-based food safety systems such as the Hazard Analysis Critical Control Point (HACCP)[16] system. These initiatives can have positive

[16] HACCP is a systematic and certifiable approach to the identification, evaluation, and control of food safety hazards at food producers' and processors' facilities. Industry implements HACCP systems; generally these are on-farm food safety (OFFS) programs for producers and HACCP programs for processors. Auditing and certifying implemented HACCP programs is done by independent national entities. Alberta Agriculture's role is to promote acceptance and facilitate implementation of OFFS and HACCP programs by Alberta producers and processors. The Department believes that preventative programs such as HACCP implemented by the food industry and backstopped by existing regulatory programs will be more effective than sole reliance on regulatory inspection.

trade as well as human health implications. Alberta is at risk of falling behind other jurisdictions in adopting innovative programs.

Integration of food safety activities

Food safety is an environment with multiple participants, where the entities know each other and each entity has views on their own and others' performance. Barriers between the participants have evolved based on perceptions of past events and current situations. We are concerned that food safety is not as well integrated in Alberta as it should be. The problem manifests itself in program gaps and a lack of integrated planning. Known food safety risks continue because participants do not cooperate to solve the problems. Participants should pursue opportunities for progressive action more aggressively. A cross-government initiative could address this situation.

Alberta Agriculture

At Alberta Agriculture, food safety is a key strategy for the ministry. Recent issues such as BSE have given food safety a high profile. Operationally, the Food Safety Division delivers its own programs. International and national influences encourage Alberta Agriculture to pursue innovative food safety approaches. At Alberta Agriculture, the issue is often to manage new and evolving programs and initiatives efficiently.

Alberta Health

Alberta Health's Environmental Public Health group had their resources cut back considerably in the 1990s. Before regionalization, Environmental Health was a branch of its own with thirteen staff, five of whom were technical specialists. The group now has three staff. They do not control environmental health program delivery; RHAs do that. Given available resources, they spend much of their time on regulatory and technical standard setting plus responding to specific policy issues. The group has limited time to direct new initiatives or develop strategic plans for environmental health. As well, a noticeable distance has developed between Alberta Health as the standard setter and the RHAs as the service providers. Within the environmental health sector, Alberta Health should offer leadership in areas such as strategic planning, monitoring of program effectiveness, and accountability.

Regional health authorities

Alberta's RHAs can be divided into two categories: the two urban RHAs with 50 public health inspectors (PHIs) each and the seven rural RHAs with no more than ten each. The urban RHAs and especially Capital Health should be commended for offering leadership in the environmental health sector. For example, Capital Health organizes continuing education programs for PHIs across the province, undertakes research projects, and shares its specialized expertise with other RHAs. The urban RHAs have enough resources in their units to manage all aspects of an environmental health program. Broadly speaking, rural RHAs' environmental health units do not have the resources to deliver their inspection program over vast regions as well as provide

ancillary functions such as computer system management. The impacts of the resourcing issue in the RHAs are weaknesses in the inspection program, significant differences in program service across the province, and difficulty implementing innovative compliance procedures.

4.1 Audit criteria and conclusions

Our criteria and conclusions relate to the province's food safety systems taken as a whole, including both the health and agriculture sectors. The summary conclusions do not necessarily apply to all participants because some have stronger systems and controls in place than others. However solutions to the issues require the cooperation of all participants.

Criteria	Conclusion		Related Numbered Recommendations
	Met	Not met	
There should be high-level integration and coordination in an environment of shared jurisdiction.		✓	11
Alberta's food safety legislation and regulation should be up-to-date and consistent between ministries.	✓		
There should not be unproductive overlap or gaps between programs.		✓	
Technical standards should be up-to-date, science-based, and appropriate for each step across the food safety continuum.	✓		
The systems that support program delivery[17] should be well designed, controlled, and operated.		✓	6, 8 9, 10
Information systems (automated and/or manual) should be well designed, controlled, and operated.		✓	7
There should be systems to support accountability[18] for food safety objectives and resources used.		✓	12

[17] This criterion applies to the major programs delivered by the entities we audit. For the purposes of this audit, we define these entities as Alberta Health, Alberta Agriculture, and the nine regional health authorities.

[18] Accountability for food safety in the health sector may be included in broader reporting on environmental health, public health, or population health.

Integration and coordination

We conclude that the first criterion was not met. We expected to see clear integration and coordination between the participants in food safety. This is especially important in a multi-jurisdictional environment. We expected each ministry to have established its own policies, objectives, and measures for its food safety mandate. We then expected the ministries to ensure that these policies, objectives, and measures would be synchronized. However, we found that Alberta Health has not completed its environmental health policy and Alberta Agriculture needs to complete its plan for HACCP implementation. The ministries do not have an effective system to integrate and coordinate with each other's planning—see Recommendation No. 11.

Legislation and regulation

We conclude that the second criterion about legislation and regulation has been met. Each department has a system to review and update its legislation and regulations. We found that the departments are in the process of legislative review, with results expected to go to the legislature in 2006 or 2007.

Overlaps and gaps

We conclude that the criterion about unproductive overlaps and gaps has not been met. We expected that, for long-standing programs such as food establishment inspections, all overlaps or gaps should be resolved by the regulators. However, we found that gaps or overlaps related to mobile butchers, the Meat Facility Standard, and the "non-federally regulated" sector have been identified but not resolved—see the recommendation on page 102.

Technical standards

The criterion about technical standards has been met. We found that both departments had systems to maintain up-to-date and science-based standards. At Alberta Health, this often consisted of participation in and adoption of standards developed by the FPT committees. At Alberta Agriculture, formal accreditation indicates the laboratories maintain appropriate standards. Alberta Agriculture also participates in and adopts the results of FPT committees. In cases such as meat inspection they develop their standards based on collaboration with other jurisdictions and reliance on experts.

Systems to support program delivery

We conclude that the criterion about systems supporting program delivery was not met. Programs are generally designed to meet regulatory requirements, with the exception of permitting issues as discussed in Recommendation No. 8. In the health sector, the food establishment inspection system is the key to environmental health's regulatory activities. While inspection systems are generally adequately designed, we concluded that they are not delivered on a timely basis, are inconsistent across the province, can be more efficient, and do not adapt based on program results—see the recommendations on pages 76, 83 and 88 for further details. For Agriculture, aspects of the surveillance, inspection, and investigation systems can improve—see Recommendation Nos. 9 and 10.

Information systems

We conclude that the criterion about information systems was not met. Management in both the health and agriculture sectors can improve control over access to the information systems and to the data in individual files in the systems. Data consistency and completeness are also an issue. The rural RHAs have a particular problem in obtaining reports useful for management and accountability purposes—see Recommendation No. 7 on page 84 and the recommendation on page 94.

Accountability

We conclude that the criterion about accountability was not met. We believe that ministers and responsible entities should have systems that provide them with the information to report and be accountable. Alberta Agriculture has food safety reporting in place through its Annual Report processes. This includes performance measures. However, that reporting does not integrate with food safety initiatives in the health sector. Alberta Health does not have systems in place to monitor and analyze the performance of environmental health units in the province. As well, Alberta Health has not established performance measures or the systems to collect performance measurement data related to food safety or environmental health. As a result, the Minister of Health does not have available information to judge the success of food safety initiatives—see Recommendation No. 12.

5. Our audit findings and recommendations

5.1 RHA food establishment inspection programs

Recommendation No. 6

We recommend that the regional health authorities improve their food establishment inspection programs. In particular, regional health authorities should:

- Inspect food establishments following generally accepted risk assessment and inspection frequency standards;
- Ensure that inspections are consistently administered and documented;
- Follow up critical violations promptly to ensure that food establishments have corrected those violations;
- Use their enforcement powers to protect Albertans from the highest risk food establishments;
- Periodically reinforce independence and conflict of interest policies amongst public health inspectors.

Background

Three types of inspection

Inspection is the cornerstone of the RHAs' regulatory process. In this report we classify inspections into three types: initial, routine, and complaint-based. Initial inspections take place before a food establishment opens. Routine inspections include the periodic full inspection whose frequency is described in The Blue Book[19]. Follow up inspections also fall in this category. Complaints lead to either a full inspection or one targeted at the source of the complaint.

Risk-based targets for inspection frequency

There are generally accepted targets for the frequency of routine food establishment inspection. Although not formally adopted, RHAs acknowledge these targets; they are laid out in the Blue Book. Low risk establishments should be inspected at least once a year, medium risk twice a year, and high risk three times a year. Other jurisdictions such as Toronto use these targets.

Two types of increased food safety risk

It is difficult to link unsanitary food establishments directly to particular human health results. Even so, public health practitioners rely on food establishment inspection as a front line of human health protection. Increased food safety risk exists in two situations: where inspection identifies food establishments with critical food safety violations and where establishments that should be inspected do not get inspected.

Enforcing the *Public Health Act*

Alberta Health and the RHAs enforce the *Public Health Act*. The Act confers significant powers on executive officers to prevent or correct food safety risks in the facilities that they inspect. The Act empowers executive officers to inspect food establishments and following inspection issue executive orders. Orders can impose a broad range of requirements on the operator including amending or revoking the food establishment's permit. Executive officers can also order the closure of a food establishment if the facility may threaten the public's health. Executive officers can also lay charges against persons responsible for health threats and these legal actions can proceed either independent of or in combination with executive officer's orders. Other regulatory requirements under the Act include mandatory food handler's training.

[19] The environmental health directors in the RHAs developed the booklet titled *A Common Reference System and Operational Standards for Alberta Regional Health Authority Environmental Health Programs*, commonly called *The Blue Book*. *The Blue Book* defines vision, mission, scope, principals and values for environmental health programs. It then breaks environmental health into seven functional program areas, one of which is food safety. Every RHA uses the seven functional program areas from *The Blue Book* to organize its work.

Criteria: the standards we used for our audit

The systems that support program delivery should be well designed, controlled, and operated. Standards for program delivery should be defined. Each entity should have adequate manpower, including training, continuing professional education, etc. Food safety programs should be consistent across the province (not necessarily the same, but equivalent effectiveness). For any point in the province, those being regulated should expect equivalent treatment. Managers should monitor operational results on a timely basis. The extent and timeliness of program delivery should be maintained. Appropriate actions should be taken at each entity, based on program results.

Our audit findings

Blue Book was a start in defining common practice

The Blue Book was a step toward developing province wide objectives and process standards for environmental health. However, neither the RHAs nor Alberta Health formally endorse it. The major sticking point relates to The Blue Book's focus on operational matters, especially the frequency of inspections. Neither group wants to be seen to dictate operational requirements and therefore resource requirements. Without official or agreed operational standards, each RHA develops its own. Here are examples of how operational practices across the RHAs have diverged.

RHAs now use different risk assessment methods

RHAs follow a variety of practices when assigning food establishment risk. Defining the risk is an important parameter when deciding frequency of inspection or acting on violations. Five RHAs use the four permitting categories[20] or a simple variation. Others follow the *Blue Book* standards[21] or variations. RHAs have also tried to develop more sophisticated assessments based on criteria such as population served, types of food, or number of clients. The RHAs' environmental health computer programs support sophisticated assessment methods.

Consistent risk assessment is a foundation

Risk factors in food establishments are similar across the province, no matter the location. Risk assessment should be consistent so that food safety concerns and operators are treated equally across the province. Assessments should be based on science and best practice. Leadership by Alberta Health or DC9 would be beneficial in developing a consistent province-wide risk practice. In that way, RHAs would not have to duplicate effort in developing the assessment. A province wide risk assessment practice could be a first step in standardizing a basic vocabulary and dataset for the province.

[20] RHAs issue permits to food establishments. See page 87 for further detail.

[21] The *Blue Book* calls for an annual stratification of food establishments into three risk categories.

RHAs do not meet frequency targets

RHAs are falling behind their frequency targets. There are wide variations in the actual frequency of inspection between RHAs. Only the Capital Health Authority meets the Blue Book target for completed inspections. Results, especially in the rural RHAs, are volatile from year to year. Losing even one inspector to retirement or illness can make a significant difference.

Why RHAs do not meet targets

A lack of inspectors is commonly blamed. This is especially true where there are only six or eight inspectors for the region. Demands from other environmental health activities leave limited time for routine inspection. Activities such as complaint investigations from other program areas are high priority and limit the capacity to perform routine inspections. The RHAs estimate that they need at least 35 more fully qualified public health inspectors.

Some RHAs set lower frequency targets

Some RHAs are setting frequency expectations lower than the Blue Book targets. The Calgary Health Region has done so formally; it now defines six risk classes, but the highest risk requires only two inspections per year. Other RHAs are adjusting informally. For example, one RHA has set the informal target of one inspection per year for all permitted food establishments. Again this widens the discrepancies in food safety practices between regions.

PHIs use different inspection approaches

During our audit, we shadowed 19 public health inspectors (PHIs) as they inspected food establishments. Inspection is an activity requiring considerable professional judgment. For example, the PHI inspects a food establishment with all environmental health concerns in mind, not just safe food standards. To perform a comprehensive inspection that examines every food safety best practice would be impractical. We found different inspection approaches by different PHIs. We did not expect the degree of variation to be so considerable between PHIs in a single RHA and between RHAs. Three tools or processes will generate greater consistency: inspection checklists, incorporating new inspection requirements in checklists, and stronger inspection documentation.

Inspection checklists are not consistent

Inspection checklists remind PHIs of key aspects that should be covered during an inspection. Our shadowing showed that most PHIs use checklists, although with many variations. In one RHA, some PHIs still used an old manual checklist; others used a checklist generated by the newer computerized system; and still others had developed their own checklists. Not only were the checklists different, but the approach to filling them out varied. Some PHIs used the exception approach, checking off only those items that were not in compliance. Others used a completion approach, checking off everything that was completed. Still others made no checks on the checklist at all. Some left a copy of the checklist with the operator, others did not. Given the need to document work done as well as violations, we

recommend the completion approach to checklists. For consistency, all PHIs in each RHA should use the same checklist in the same way.

New regulatory requirements not inspected

In shadowing the PHIs, we wanted to see whether the newest requirements of the Food and Food Establishments Regulation were being examined. These requirements relate to pest control, sanitation, and food safety control procedures that operators needed to implement by April 1, 2005. In most cases, PHIs did not ask for or inspect the documentation now required by regulation. The environmental health units should update their inspection checklists to capture new food safety initiatives.

Standards for documentation

Inspection documentation is important because it justifies decisions made about operators, including decisions to prosecute. It also provides the basis for program analysis. For example, management want to know output measures such as the number of inspections and outcome measures such as the number of critical violations resolved. Documentation of inspectors' work can come in hard copy and electronic formats. Most RHAs have not formally defined documentation standards although they will have an informal view of what should be recorded. Documentation expectations vary from RHA to RHA. Most RHAs do not routinely monitor either their hard copy or electronic files. This leads to variability of documentation within RHAs. The documentation we reviewed frequently did not meet the informal standards set in the RHA.

Documentation of inspections not consistent

All RHAs but one require the PHIs to document their inspections on a computerized system. A printout of this computerized report goes to the operator as the official record of inspection. Support for the computerized record can be stronger. For example, some PHIs do not file the checklist used during the inspection in the manual file. Not all violations listed on hard copy checklists were entered into the electronic record. The inspection report should link violations to the applicable regulatory requirements. All computerized systems can do this although not all have been set up with this functionality. Linking violations to regulations helps explain to operators why the finding is important.

Dealing with critical inspection violations

Historically, food safety regulatory programs have depended on food establishment inspection as a key detective and preventative control process. Within the inspection process, critical violations indicate establishments with elevated food safety risk. The immediate correction of critical violations is a key objective for a food safety inspection program. All RHAs should follow up critical violations on a timely basis to ensure that the food establishments have corrected their problems. All inspection information systems have the capacity to flag critical violations and schedule them for follow up.

Many critical violations not followed up

During our audit, we found that many inspections identified food establishments with critical violations. However, many of those violations were not followed up on a timely basis[22]. As well, many establishments had a long history of inspections with critical violations, indicating that the food safety program had not successfully mitigated the risk related to those establishments.

Summary audit findings

We examined the inspection record of 20 food establishments in each RHA. In total, we reviewed the inspection results from 180 establishments. We identified at least 34 establishments[23] where, for inspections performed in 2004, there was no scheduled or documented follow up of reported critical violations. In these cases, the RHA continued with its schedule of routine inspections for these establishments. In many of the 34, the next routine inspection confirmed the same critical violations or others that were as serious.

An example of critical violations not followed up

For example, we reviewed the RHA's inspection files for a restaurant which should have been inspected three times per year. The last inspection in June 2004 reported five infractions. Two of these related to improper storage temperatures for both hot and cold food. In addition, the restaurant had no test strips to test the concentration of sanitizer in the dishwasher. Despite these critical violations, there was no follow up documentation or date for re-inspection set in the system. An inspector had not revisited the restaurant by the time of our audit in March 2005.

RHAs do not move up the enforcement ladder

PHIs have the regulatory authority under the *Public Health Act* to enforce their findings. However, we observed a reluctance in most RHAs to move up the enforcement ladder[24]. Our examination of inspection files illustrates cases where individual food establishments have (often the same) critical violations inspection after inspection, yet no subsequent enforcement activity. RHAs should be more aggressive in issuing orders or taking legal action in the promotion of food safety.

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[22] The nine RHAs do not have a common definition of timely. Generally, inspectors who scheduled follow up inspections did so within a week. Depending on the severity of the violation, inspectors could return for re-inspection the next day.

[23] We say "at least 34" because we had to exercise professional judgment in quantifying this result. For example, we do not have authoritative definitions of terms such as critical violations and timely follow up. In some cases, we also needed to interpret the inspection history from summary inspection records or the memory of PHIs.

[24] Earlier we outlined the powers available to executive officers under the *Public Health Act*. In promoting food safety, executive officers can access increasingly powerful tools under the *Act*. We call these tools the "enforcement ladder" and in the *Act* they build from facility inspection to executive officer order to prosecution. Some RHAs add extra rungs to the enforcement ladder (e.g. warning letters or hearings at RHA offices before prosecuting). All public health inspectors in Alberta are executive officers under the *Act*.

Annual statistics for orders and prosecutions

Few executive orders are written and even fewer food establishments are taken to court. Given the number of food establishments with repeat critical violations, these are surprisingly small numbers. During calendar 2004, PHIs issued only 25 executive officer orders under the *Public Health Act*. In three RHAs, no orders were issued at all. In the same timeframe, there were four food-related prosecutions in the province. All prosecutions were successful. These orders and prosecutions detail some of the worst food safety inspection records. In one successful prosecution, the judge reviewed the food establishment's eight year history of repeated food safety violations.

Reasons for not moving up the enforcement ladder

In rural RHAs, we were told that the reluctance to move up the enforcement ladder often relates to the impact of executive officer orders or prosecutions on businesses. In smaller communities, enforcement activities can quickly become public knowledge, cutting off the food establishment's clientele and effectively closing the business. For all RHAs, prosecution requires a significant investment of PHI time and RHA resources.

Independence & conflict of interest procedures

All RHAs have independence and/or conflict of interest policies. However, we found that none of the RHAs require periodic confirmation of their independence and/or conflict of interest policies. PHIs are in a position of public trust. For this reason, management should periodically confirm that their staff are aware of and follow these policies. During our audit, we found one questionable case. A PHI inspected a club of which he was a member. This type of situation could prove embarrassing for the RHA, the PHI, and the food establishment.

Implications and risks if recommendation not implemented

If regulators do not implement consistent inspection practices across regions and across the province, levels of food safety inspection may vary. Lower standards of inspection can lead to adverse human health impacts. Food establishment operators across the province may experience differing levels of regulation. When inspections fall behind frequency targets, public health risk may increase. The underlying value of a regular inspection includes preventative and educational components.

Without adequate documentation, management will not have the information they need to support enforcement actions or analyze the effectiveness of their programs.

Without timely action on known food safety issues, food safety regulators accept an increased risk to Albertans' health. Without timely and effective follow up and enforcement, food establishments with chronic poor food safety practices will continue to operate.

Without periodic confirmation of independence and conflict of interest policies, RHAs assume the risk that inspectors may violate the policies.

5.2 Tools to promote and enforce food safety

Recommendation

We recommend that the regional health authorities and the Department of Health and Wellness consider a wider range of tools to promote and enforce food safety.

Criteria: the standards we used for our audit

The regulators should have the legislative, regulatory, and promotional tools to exercise their food safety mandate. Practices should be consistent across the food safety continuum.

Our audit findings

HACCP-based programs required in Australia

Alberta's existing food safety legislation and regulation contains enforcement tools and Alberta amends its tools periodically[25]. However, other jurisdictions have implemented innovative regulatory approaches. For example, the State of Victoria in Australia requires food establishments to implement HACCP-based food safety programs. In addition to this HACCP-based control, Victoria still administers its inspection program. Other jurisdictions use fines to penalize offending food establishments. Alberta's regulators should review and consider the effectiveness of alternative approaches to improve food safety effectiveness and efficiency and to remain current with national and international trends.

Dinesafe program has promising food safety results

The RHA food safety program relies on food establishment inspection as a cornerstone of their regulatory approach. Inspection is not just detective in nature; it also has preventative and educational aspects. Building on the inspection process, the City of Toronto has implemented its Dinesafe program[26]. Dinesafe is related to the inspection process in two ways. The result of the latest inspection is available to the public on the City website and each establishment must display the latest inspection result on their door. Toronto reports that, "prior to the implementation of the program, 30 per cent of food premises passed their first health inspection. Currently, over 88 per cent of premises get a green pass on their first inspection."[27] This program places pressure on the operator to correct any food safety issues immediately.

[25] Recent innovations in the health food safety regulations include mandatory food handling courses for workers as well as mandatory pest control, sanitation and food safety plans for establishments themselves.
[26] For more information about Dinesafe, see the Toronto webpage: http://app.toronto.ca/food2/index.jsp.
[27] City of Toronto news release, January 23, 2004, "City wins court challenge of DineSafe - Toronto's restaurant disclosure program".

Cooperation required to implement new programs

Cooperation would be required to design and implement innovative health programs. Alberta Health writes new food safety legislation and regulation but the RHAs have to implement it. The RHAs expressed concern that new standards have been developed without consulting the RHAs on implementation. This underscores the importance of Alberta Health's engaging RHAs in advance to consider how RHAs can deliver new program elements. Implementing innovative programs may come with a cost and the RHAs may find it financially difficult to implement innovations on their own.

Cooperation between Health and Agriculture to promote food safety

Both Alberta Health and Alberta Agriculture encourage a broader partnership with industry to promote food safety. Cooperative food safety initiatives provide the regulators with a wider tool kit and may reduce the need for regulatory intervention. Coordination between Alberta Health and Alberta Agriculture would be useful in some of these initiatives as Agriculture may be implementing similar programs. For instance, cooperation between Health and Agriculture would be appropriate for HACCP-based programs in Alberta.

Implications and risks if recommendation not implemented

Without exploring innovative initiatives, regulators may not have the best support and sanctions to improve operator performance. Without innovative practices, borderline food safety practices by operators may not be eliminated.

5.3 RHA food safety information systems

Recommendation No. 7

We recommend that the regional health authorities, supported by the Department of Health and Wellness, improve their automated food safety information systems. This includes:

- **Enhancing system management, security, and access control;**
- **Ensuring data consistency;**
- **Ensuring that service level agreements are in place;**
- **Developing reporting capacity for management and accountability purposes.**

Background

Three systems used in RHAs for environmental health

Each RHA now decides independently which software package it will use to collect and store its food safety information. There is no common software package for the province as a whole. The nine RHAs use three different software packages: TMS, Caseworks, and Hedgehog. One RHA uses no special environmental health software. Alberta Health does not access these systems or their data. All three packages support food safety activities such as permitting, calculating risk for each establishment, recording inspections, scheduling re-inspections, and reporting summary results.

Criteria: the standards we used for our audit

Information systems should be well designed, controlled, and operated. Managers should define the information they need to plan, manage, and report their key businesses; the information systems should collect that data. Systems should be secure, including access, input, and processing controls. Systems should collect and maintain timely, complete, and accurate data. Management should periodically review to ensure data quality. Data should be accessible to those who need it. Information systems should be efficient and reliable.

Our audit findings

Systems' security and access can be improved

Every RHA has generally accepted information technology standards and practices for the hardware and software used in its region. Because they are relatively small applications, TMS, Caseworks, and Hedgehog do not achieve those standards and practices. Especially in the rural RHAs, security and control issues include inadequate password control, shared passwords, and limited control over who can enter data into reports. The data in these applications is not as secure as it should be.

TMS service level agreements

There is a contracting issue with the TMS system. One individual develops, markets, and supports this product. At the time of our audit, the Capital Health Authority and two other RHAs had implemented TMS. The standard contract between the TMS vendor and each of the RHAs is one page long. It does not establish processes to renegotiate the contract, resolve disputes, terminate, or transfer rights to the program if the vendor disappears. This exposes the RHAs to the risk that they might on short notice not have the right to use the TMS system. RHAs can address this issue by developing and signing a stronger contract to protect their interests. Contracts with Hedgehog and Caseworks feature appropriate service level agreements.

Data consistency between and within systems can be improved

Alberta Health and the RHAs need summary results to manage and report on their environmental health programs. Without province-wide rules, RHA data will not be comparable. To date no common provincial dataset has been defined. The dataset should define the essential data to be collected by

everyone. The individual elements of the dataset also need to be defined. Currently the definition of elements such as food establishments, inspections, and critical violations differs from RHA to RHA. During our audit, we collected summary data from all the RHAs but found it difficult to assemble consistent data.

Other data users should be consulted

During our audit, Alberta Health and Alberta Agriculture indicated they would be interested in the RHAs' data about food safety. For example, Alberta Health's Disease Control and Prevention Branch is interested in linking the RHAs' food safety data to the public health and disease reporting data collected by the department. However the parties have not discussed how such data sharing could be implemented.

Rural RHAs have issues managing their systems

The rural RHAs have challenges in managing their food safety information systems. We found the following issues in a variety of RHAs. Administrative tasks within the systems have not been completed; these include updating risks for specific establishments or setting up inspectors with appropriate access. Inspectors do not enter complete and consistent data into the system on a timely basis. RHA staff can run canned reports from the systems but often those reports are not the result they want. On the other hand, the environmental health units do not have the capacity to develop their own ad hoc reports. As a result, the rural RHAs often rely on parallel systems (manual and semi-automated) to provide summary data that they should be getting from their main system.

Possible solutions

Management could correct these information system issues in several ways. The most effective solution would see the RHAs implement one province-wide information system for environmental health. This would eliminate the systems management issues for the rural RHAs. To make this a practical solution, support from Alberta Health may be required for development and conversion costs. Alternatively, if the RHAs continue with independent systems, the RHAs in partnership with Alberta Health could establish a provincial dataset supported by element definitions. With this foundation, information systems could capture a food safety dataset accurately and consistently. Further partnership between RHAs in developing software solutions would also help in establishing consistency. During our audit, we saw one example of a rural RHA partnering with an urban RHA to acquire data evaluation and reporting functionality.

Implications and risks if recommendation not implemented

Without adequate security for their computerized information systems, RHAs run the risk of lost or inaccurate data. This can have an impact on managing the business and supporting regulatory decisions. Maintaining parallel systems to acquire management data is inefficient. Without strong service level agreements in place, RHAs may face an unexpected service disruption due to issues with the software vendor.

Without a defined dataset for the province, efforts to collect consistent data will be undermined. Having each RHA define its own dataset duplicates effort. Without discussing data needs with other potential data users, those users will not be able to access the data that would improve their analysis of food safety and public health issues.

5.4 Compliance with permitting legislation

Recommendation No. 8

We recommend that the regional health authorities ensure that their food establishment permitting practices comply with legislation and are efficient.

Background

Food establishments must have permit to operate

Permitting is a longstanding business for RHAs. Regulation has long required a valid permit to operate a food establishment. Permits are valid for one year. The Minister of Health sets permit fees based on a four-stage classification system. The RHAs collect the fees before issuing the permit. Fees range from $100 to $500. RHAs will not issue a permit until they have received the fee.

Criteria: the standards we used for our audit

Systems should be designed to meet legislative requirements.

Our audit findings

Regulatory requirement for initial inspections

Food establishment plans should be approved before the permit is issued and operations begin[28]. The urban RHAs have processes to enforce this requirement. Public health inspectors at City Hall review and approve the plans that come to the municipality for building code approval. This also alerts the urban RHA to inspect the food establishment before or soon after opening. The rural RHAs do not have the resources to run such a system; they rely on the municipality to inform them of new plans. This does not always work and many times a food establishment opens without the RHA's knowledge. They learn of them eventually and perform the initial inspection as soon as they can.

[28] Food Regulation, AR 31/2006, paragraph 16.

Permits not issued to meet regulatory requirement

Four RHAs have weaknesses in their permit issuing program which allows food establishments to not be in compliance with regulation for some portion of the permit year. Permit invoices are sent out too late or not followed up before the permit year begins. For some RHAs, follow up of permit non-compliance is slow. As a result, establishments operate without valid permits for months. Some RHAs are still developing their business rules and processes to collect these fees. Fee collection is not a critical food safety activity but monopolizes a significant amount of inspectors' time.

Implications and risks if recommendation not implemented

Without adequate timelines for the food establishment permit issuing process, food operators may operate with poor food safety practices.

5.5 Alberta Agriculture's surveillance program

Recommendation No. 9

We recommend that the Department of Agriculture, Food and Rural Development improve the administration of its food safety surveillance program. This includes:

- **Documenting its prioritization processes;**
- **Involving partners in the prioritization of projects;**
- **Ensuring conditions for the approval of specific projects are met and final approval recorded;**
- **Capturing costs for large projects;**
- **Monitoring the impact of surveillance projects;**
- **Considering whether regulatory support for the program is required.**

Background

Surveillance is a goal of the Ministry

One of the Food Safety Division's initiatives is to "develop, implement and maintain a surveillance system that validates and identifies opportunities for enhancing the safety of Alberta's agriculture and food products."[29] The surveillance program has been in place about five years.

Six hazard teams were prioritized in 2002-03

The Food Safety Division follows an annual process to prioritize its surveillance projects. The process begins with a questionnaire-based environmental scan that identifies new issues, risks, and topics. In 2002-2003, the Food Safety Division prioritized and grouped issues into six teams. The hazard teams have continued as the first line of consideration for new projects based on either the annual environmental scan or pressing need.

[29] Quoted from one of the goals in the 2005 Ministry of Agriculture *Business Plan*.

Annual review and approval of projects

Once a year, current and proposed projects are presented to the Director and Senior Leadership Team of the Food Safety Division. For approval, projects require an Agreement in Principle (AIP) document that outlines the scope of the project. Beginning in 2005 the AIP is input to the Projects Reports Database, a project number is assigned, and the project awaits approval or rejection by the Senior Leadership Team during one of their regular meetings.

Criteria: the standards we used for our audit

The Food Safety Division should ensure that its process to select surveillance projects is appropriate. There should be effective coordination between food safety partners to ensure that initiatives are properly prioritized. Surveillance programs should be operated with due consideration to effectiveness and efficiency. Managers should monitor results and appropriate actions should be taken, based on program results.

Our audit findings

The surveillance program is relatively new in Alberta and unique amongst provincial governments. Many of the program's administrative processes evolved as the program grew. There are opportunities to improve the program through stronger systems and processes.

The prioritization process should be documented

The Food Safety Division should document the process it uses to prioritize projects and ensure they regularly update it. As the process has evolved over the past five years, no one had documented the steps, timelines, participants, and so on. As an example, we found that the list of hazard team members has not been updated for several years, although personnel on those teams have changed. Documentation will help participants understand the goals of prioritization and participate in the steps in the process. This will be important as more food safety partners participate in the prioritization process.

Partners should be consulted

The Food Safety Division now performs the annual environmental scan with its own staff members. Others food safety partners such as Alberta Health, the regional health authorities, and industry have insights into potential surveillance projects but are not formally consulted. The Division needs to expand the list of partners involved in its prioritization process.

SLT should ensure conditions have been met

The Agreement in Principle (AIP) approval process can be improved in two ways. First, the Division's Senior Leadership Team (SLT) often approves an AIP with conditions. However the AIP does not subsequently come back to SLT. Without seeing a final AIP, SLT does not know whether the original conditions were met, amended, or disregarded. For projects approved with significant conditions, the SLT should implement a system that ensures the conditions have been met.

Formal AIP approval was not consistent

Second, the Division should ensure that approval is consistently recorded. During our testing, we encountered inconsistent views as to what constituted AIP approval. The options seemed to be signatures on the AIP itself, signatures scanned into the Projects Reports Database, or SLT minutes indicating approval. The Director tells us that the last is the formally accepted process. None of the three options were rigorously followed. Of our ten sample items, five lacked signatures on the AIP, seven had no signatures scanned into Projects Reports Database, and six had no reference to SLT minutes.

Not all direct project costs are captured

While many surveillance programs are small, some can cost as much as $750,000 across their life. To accumulate costs in Alberta Agriculture's financial system, smaller projects may be grouped together in one account code. For large projects, a separate financial account code may be set up. In either case, the financial system now captures only a selection of direct expenditures such as external supplies or services. Major costs such as staff and management time, in-kind contributions, and capital costs are not captured for projects. Capturing a wider range of costs will be important in assessing the cost-benefit of major projects.

Using the Department's new methodology

The benefits of knowing what a project costs need to be balanced by cost considerations. In particular, laboratory, research, and management staff should spend a minimum amount of time on administrative matters. But tracking time for major projects is possible and would not be too great a burden. Alberta Agriculture is rolling out a new project management methodology across the department. The methodology includes aspects of cost tracking and management. The Food Safety Division should be able to adapt aspects of the methodology to generate better cost information about their major projects.

Monitoring the impact of projects

Many projects conclude with the preparation of the final project report. In some cases, the report may be published for a public audience; in other cases, the report is directed to a particular entity or partner. This reporting focuses on the completed project's findings but not on the impact that the project has had on food safety, human health, or agricultural practices. The Food Safety Division does not routinely monitor the impact of its surveillance results.

Tracking the impact of surveillance is possible

Linking surveillance results to actions by industry is possible. There have been cases where the Division received feedback on the impact of its projects. For example, where a project's test results indicated a health hazard, the information was passed to the Canadian Food Inspection Agency which then decided on recalls. The Division should confirm with partners whether surveillance has led to actions. If the surveillance findings impact public health, then linking the findings to health outcomes will be difficult. However, the Division should trace at least intermediary actions by industry or partners to act on surveillance results. This will confirm that projects meet food safety objectives and contribute to the analysis of project and program effectiveness.

Surveillance programs might benefit from regulatory support

The surveillance program does not have a legislative mandate for its work. Food safety surveillance projects would benefit from regulatory support. At present, participation by industry in these projects is voluntary. During our audit we reviewed the project, "Occurrence of E.coli in fresh strawberries grown in Alberta". Originally this project was also to include an analysis for salmonella. But this component was eliminated from the project because producers would not cooperate. In cases where a producer requests a surveillance project, gathering samples will not be problematic. However, when the Food Safety Division spearheads a food safety project, it would be beneficial to be able to oblige cooperation from producers through regulation.

Implications and risks if recommendation not implemented

Without an adequate process for deciding surveillance programs, management may not identify significant food safety opportunities. Without cost information, management is missing an important component for analyzing the cost-benefit of particular surveillance projects. Without monitoring the impact of their work, the Food Safety Division will not know whether it is achieving its goals and key results. Without regulatory support, surveillance projects may not be able to meet their intended objectives.

5.6 Alberta Agriculture's inspection and investigation programs

Recommendation No. 10

We recommend that the Department of Agriculture, Food and Rural Development improve its inspection and investigation programs by ensuring:

- It considers a broader range of enforcement tools;
- Inspections are up-to-date;
- Practices for complaints, incident reports, and held tags are consistent.

Background

45 Meat Inspectors across the province

Alberta Agriculture's Food Safety Division operates two regulatory programs within the Regulatory Services Branch. The Meat Inspection unit administers the Meat Inspection Act and Regulation. They license provincial abattoirs, inspect animals slaughtered in those facilities, and inspect the facilities themselves. Legislation requires that provincially regulated slaughterhouses be licensed and an inspector be present for all slaughters. Meat Inspection has four regional offices: Edmonton, Airdrie, Vermillion and Lethbridge. There are approximately 45 full time inspectors across the province.

6 investigation officers

The Prevention and Investigation unit is responsible for regulatory duties such as licensing, inspection, and complaint response for a variety of food related businesses[30]. The Prevention and Investigation office is located in Red Deer; there are six inspectors/investigators located across the province.

Criteria: the standards we used for our audit

The regulators should have the legislative and regulatory tools to exercise their mandate. Food safety programs should be consistent across the province (not necessarily the same, but equivalent effectiveness). For any point in the province, those being regulated should expect equivalent treatment. The extent and timeliness of program delivery should be maintained. Practices should be consistent across the food safety program.

Our audit findings

Meat inspectors can only place held tags to force compliance

When a meat inspector finds a problem at a facility, his only regulatory options are to deny inspection (thereby closing the plant) or to place held tags on equipment and machinery (which also stops further processing). However, there are no other regulatory means to promote compliance. During our audit, we observed food safety situations that should be corrected but do not warrant a complete shutdown of the facility. This allows less critical food safety issues to continue indefinitely. In such cases, the inspector might be able to coordinate with the RHA's public health inspector and obtain a health order under the *Public Health Act*. However, if the meat inspectors could write compliance orders on their own authority, then they would have regulatory tools equivalent to public health inspectors.

Prevention and Investigation can only prosecute

The enforcement ladder for Prevention and Investigation is also limited. On minor first time issues, the offender often receives a copy of the legislation and a request to comply. There is no further follow-up unless another complaint is received. For repeat offences, the investigator will gather

[30] They are responsible for the inspection and/or licensing of dairy producers, bulk milk trucks, bulk milk graders, dairy plants and processors, mobile butchers, livestock markets, production animal medicine vendors, plus complaint response related to Alberta Agriculture's regulatory responsibilities.

evidence to pursue charges. The results of complaints or inspections are not tied to licensing, and there are no intermediate options to correct or penalize an offender with a history of non-critical offences.

Routine inspections not current

Under the *Dairy Industry Act* and its *Regulation*, there are regulatory requirements applicable to bulk milk graders, their transport vehicles, and dairy farms. The Regulatory Services Branch inspects graders, vehicles, and farms to determine legislative compliance. During our audit, we found that most inspections were not current. For example, the Branch aims to inspect vehicles at least once per year. From our sample, we found that only three of the 15 vehicles had been inspected since 2003. Similarly for dairy farm operations, seven of 20 producers sampled had not been inspected since 2001. The Branch tells us that they have a plan in place to get up to speed on these inspections.

Some best practice initiatives underway

Regulatory Services' staff are located around the province. This can lead to differing practices in the field. As a result, regions may develop best practices and can share them with other regions. Alberta Agriculture uses this approach with some initiatives. For example, in Airdrie management is identifying meat facilities that are consistently compliant and hopes to determine the procedures or practices that facilitate operator compliance. Regulatory Services will circulate this information to inspectors so they have a list of best practices for meat facilities.

Recording complaints on Agridam

Regulatory Services' practices can be enhanced and standardized across the province. For example, the Prevention and Investigation unit always enters every complaint that they receive as well as its disposition into Agridam[31]. This means that a complete complaint history is available electronically. However, meat inspectors do not always enter complaints into Agridam. Their complaint history is held in manual files or in memory. These practices should be standardized.

Use of incident reports

When meat inspectors perform inspections of slaughter and meat facilities, they document their findings on daily checklists. In the Airdrie region, we found that the regional management team required the use of incident reports to document major non-compliance. Inspectors must enter incident reports into Agridam. Airdrie management can monitor incident reports electronically and ensure inspectors are following up on a timely basis. While Regulatory Services encourages the use of incident reports throughout the province, only the Airdrie region requires its use in this way.

[31] Agriculture uses Agridam to record results of meat inspections, bill for meat inspection services, track and renew abattoir and mobile butcher facility licences, provide summary reports on meat inspections (i.e. by inspector, facility, etc.), track and document cases and investigations for the Prevention and Investigation Unit, track licenses of production animal medicine vendors, bulk milk graders and track milk processors.

Monitoring "held" tags

There is regional inconsistency in how the inspectors track the carcasses which are "held"[32]. In the Edmonton region, inspectors are supposed to use their log books to track tags, although some logs that we reviewed did not indicate what happened to the tags. In Airdrie, there is a region-wide held tagging control system where all tags are documented on a control sheet and must be signed off by the inspectors (or plant management if a tag is lost). Inspectors monitor how long tags have been outstanding. This ensures that all tags are followed up.

Implications and risks if recommendation not implemented

Without exploring innovative initiatives, regulators may not have the best sanctions to improve operator performance. Without innovative practices, operators' borderline food safety practices may not be eliminated.

If regulators do not implement best practices consistently across regions and across the province, levels of food safety inspection may vary. Differences in service could lead to adverse human health results. Food establishment operators across the province may experience differing levels of service. Food safety activities may not be as efficient or effective as possible. Sound practices provide the foundation for analyzing and acting upon inspection results.

5.7 Alberta Agriculture's food safety information systems

Recommendation

We recommend that the Department of Agriculture, Food and Rural Development improve its food safety information systems. This includes:

- **Improving security and access controls;**
- **Ensuring complete, timely, and consistent data collection; and**
- **Ensuring data gets onto the computerized data base.**

Background

Agridam

Agridam supports Meat Inspection business activities such as managing licenses, documenting meat inspection results, and billing inspectors' time. Prevention and Investigation uses Agridam to manage licenses and document its investigations. Both units use Agridam to track complaints.

ANHSURS

ANHSURS stands for Animal Health Surveillance System. The system records raw data (e.g. laboratory findings or field tests) from surveillance and other projects.

[32] During the slaughter inspection process, carcasses can be marked as "held". This means that the operator cannot process the carcass until conditions defined by the inspector have been satisfied. This is usually the receipt of test results that have gone to a laboratory. Held carcasses are wrapped, tagged, and stored separately. Equipment in the abattoir can also be held.

Project Reports Database

The Projects Reports Database contains management information about Alberta Agriculture's projects. The Database houses documents such as the project summary, project status reports, approved scope changes, interim and final reports, and evaluation reports. Between ANHSURS and the Projects Reports Database, staff should have all current and historical information about a project.

AIMS

AIMS stands for Agri-Food Information Management System. This system is in development. AIMS will replace and provide more functionality and flexibility than ANHSURS. AIMS is intended to capture relevant historical data from past surveillance projects. This is important because historical data can be the foundation for further projects.

Criteria: the standards we used for our audit

Information systems should be well designed, controlled, and operated. Managers should define the information they need to plan, manage, and report their key businesses; the information systems should collect that data. Systems should be secure, including access, input, and processing controls. Systems should collect timely, complete, and accurate data. Data should be accessible to those who need it. Information systems should be efficient and reliable.

Our audit findings

Alberta Agriculture systems

The Food Safety Division's information systems were built in-house. The systems are small and not complex. The major food safety applications are:

- For Regulatory Services matters, Agridam;
- For surveillance matters, ANHSURS, the Project Reports Database, and (in the future) AIMS

More information could be recorded on Agridam

Alberta Agriculture can collect more data in Agridam. For example, meat inspectors collect a broad range of information during inspections, but Agridam captures only a small portion of it. For a particular slaughter at a particular facility, Agridam now captures slaughter numbers, condemned numbers, and inspector hours for billing purposes. Agridam does not record the source of condemned animals or the results of the facility inspection. The source of condemned animals is used to follow disease patterns in the province. Facility inspection information could be used to monitor the performance history of a facility. Similarly, Prevention and Investigation's routine inspections of dairy producers, bulk milk graders, bulk milk trucks, and production animal medicine outlets could go on Agridam. They are now kept in hard copy only. A central, accessible database for this information will make it available for review and analysis.

Agridam's search functionality could improve

Prevention and Investigation staff follow up complaints from industry and the public and use Agridam to document their work. Knowing whether the complaint refers to a repeat offender is important. However, the system does not have a strong linkage between cases for the same offender. Agridam allows for a hard-coded search, but is not user-friendly or accurate unless the search parameters exactly match.

Access and input controls can improve

Access and input controls in Agridam can be strengthened. There seem to be few access controls exercised in Agridam. Minimum password standards are not enforced; this is a common Alberta Agriculture issue that will be addressed in future by a single use signon for the network. In addition, users do not have to change their passwords on a regular basis and we observed employees using other employees' passwords during our field work. Write access to particular records can be limited to individual users. This reduces the risk that an employee could accidentally or intentionally change the work of another employee. This functionality does not appear to be used in the Meat Inspection unit. Controls over accuracy and completeness of inspection entry are limited to double-checking by the individual doing the entry. We noted errors when comparing hardcopy to electronic records.

Project numbers need to be sorted out

For surveillance projects, Food Safety staff have several issues with the identification of projects. Some projects have two distinct project numbers while some project numbers were duplicated. These situations resulted because several branches with unique numbering systems were amalgamated to form the Food Safety Division in 1999. The division is still dealing with the issue. For example, management could not provide us with a complete list of current and completed surveillance projects. This causes operational problems for the division. For example, partners and staff can refer to the same project by different project numbers. The Project Reports Database now assigns project numbers to new projects. If historical anomalies were corrected, the problems with project numbering should be solved.

Entry of project information to the Database

Project information has not been entered to the Project Reports Database on a timely and complete basis. The Projects Reports Database is a project management system. Updating the Project Reports Database is the responsibility of a project manager, researcher, or team member delegated that responsibility. We examined ten projects and found, for example, periodic activity reports are missing or not done, budget costs and expenses to date are often missing, and completion dates for lab results have not been updated.

Datasets in preparation for conversion to AIMS

ANHSURS does not have the capacity to accommodate large sample sizes and food safety project results. As a result, data from projects has been stored in other places. Food Safety Division will need to ensure that they identify

complete data sets for its projects in preparation for the conversion to AIMS. We reviewed ten projects and located the data for each. We found that data resided in various locations and there does not seem to be a list of data locations per project. As mentioned earlier, there is not even a master list of projects. For three of the ten projects, the data resides on ANHSURS. For five projects the data was filed electronically and for two projects the data was filed manually in the researcher's office. We are concerned about this data transfer because of the problems we noted earlier with the transfer of data to the Project Reports Database.

Implications and risks if recommendation not implemented

Without key data and the capacity to interrogate that data, Agridam will not perform to its full potential. Without adequate access and input control, data may not be complete or accurate.

Without an effective numbering process, finding information about particular projects or about projects in general becomes unnecessarily difficult. If complete and accurate data is not entered into the Project Reports Database, the system will not reach its full potential as a project management tool. Results of projects could be lost if AIMS is not properly populated. This is important because some of that data is baseline for further projects.

5.8 Integrated food safety planning and activities

Recommendation No. 11

We recommend that the Departments of Health and Wellness and Agriculture, Food and Rural Development, in cooperation with the regional health authorities and federal regulators, improve integrated food safety planning and cooperation on food safety activities and initiatives. This includes:

- **Each provincial ministry defining its own food safety policies, objectives, and measures;**
- **Coordinating provincial food safety policies and planning so initiatives are integrated;**
- **Ensuring provincial approaches align with initiatives being developed through federal/provincial/territorial committees;**
- **Improving day-to-day coordination of provincial food safety activities;**
- **Encouraging the joint application of HACCP and HACCP related programs in Alberta; and**
- **Improving cooperation and working relationships among provincial and federal partners such as the First Nations and Inuit Health Branch and the Canadian Food Inspection Agency.**

Background

Coordinating mechanisms among the many participants

Beginning on page 67, we outlined the participants who influence food safety in Alberta. In Canada, governments recognize the benefits of cooperation between participants on food safety matters. Several federal/provincial/territorial (FPT) committees and agreements have evolved to coordinate food safety initiatives in Canada. The FPT committees, sub-committees, and working groups impact Alberta's food safety initiatives.

DC9 coordinates the RHAs' environmental health activities

Each of the nine RHAs has an environmental health unit. There are about 180 public health inspectors (PHIs) working around the province. The directors' council for environmental health, called DC9, is a province wide mechanism to coordinate the nine environmental health programs. DC9's "Terms of Reference" highlight the "communication, planning and coordination of environmental health programs in Alberta". To promote these objectives, DC9 has set up a Safe Food Committee. The Committee has established working groups in the last two years to address issues such as wild game dinners and dishwashing standards.

CAPIFS helps to coordinate Alberta's food safety regulators

In Alberta, CAPIFS is another coordinating mechanism. CAPIFS stands for Canada-Alberta Partners in Food Safety, a joint undertaking of Alberta Health, Alberta Agriculture, Health Canada, and the Canadian Food Inspection Agency. It is intended to promote federal-provincial cooperation and coordination of activities on issues of common interest. Current projects include the development of food safety educational programs for schools and an SRM verification program for meat facilities. Past projects include a protocol for the investigation of food borne outbreaks

Criteria: the standards we used for our audit

In a multi-jurisdictional environment of shared responsibility such as food safety, there should be integration and coordination. Alberta's ministries, departments, and agencies' policies and programs should be coordinated province-wide. The foundation for food safety programs should be consistent across the province.

Federal regulators should be included in coordination efforts. There should be integration between provincial departments and boards, as well as integration between the provincial and federal jurisdictions.

Our audit findings

We did not find integration in Alberta

Our first audit criterion deals with the integration of food safety activities in Alberta. We expected each ministry to have established its own policies, objectives, and measures for its food safety mandate. We then expected the ministries to ensure that these policies, objectives, and measures would be synchronized. We expected the integrated approach to consider the

interaction of the federal regulators where possible. We did not find the expected level of integration in Alberta. We also did not find it across Canada, although we understand that the FPT National Food Policy Framework committee is developing an integrated Canada-wide policy.

Environmental Health's strategic plan

The Alberta ministries have not defined their own strategies completely. Alberta Health began to develop a strategic direction for Alberta's environmental health program in the early 1990s. This initiative included food safety in its scope. Due to cutbacks the initiative did not produce a final approved strategy. The RHAs' environmental health directors picked up the initiative and created The Blue Book. It lays out vision, mission, scope, principals and values for environmental health programs as well as goals and objectives for the safe food functional program area. But essential elements required in a province wide strategy are missing. For example, The Blue Book does not define roles and expectations for key players. As well, The Blue Book is not formally endorsed by Alberta Health or the RHAs.

Recent strategic initiatives at Alberta Health

Recently Alberta Health has undertaken two strategic initiatives. The department drafted a "Public Health Strategic Plan" in 2004. The impetus to accept or implement the "Plan" seems to have receded. More recently, as a first step to working on a provincial strategy for environmental health, the Department started a project to determine outcome performance measures for environmental health. While the project to identify measures is underway, systems to collect the data have not yet been considered. The result of that project should be ready in 2006. Alberta Health needs to complete its environmental health strategy.

Alberta Agriculture has a food safety goal

Alberta Agriculture elevated its interest in food safety a few years ago when it made food safety one of its business planning goals. To the extent that the Ministry has attached strategies and performance measures to the food safety goal, it has developed aspects of a strategic plan for food safety. Agriculture's planning is related only to its own jurisdiction. It is not an integrated provincial food safety strategy.

Integrating food safety strategies

Alberta Health and Alberta Agriculture are the policy setters on the provincial side and should lead in ensuring integration between their respective ministries. The initiative to integrate should include input from regional health authorities and consultation with other stakeholders including federal entities, industry, and industry groups. The initiative's end result would need to define the:

- Integrated strategic vision, mission, scope, goals and objectives for food safety in the province.
- Performance measures, especially the desired measurable outcomes from an integrated food safety program.

- Participants and their respective roles and responsibilities in an environment of shared responsibility.
- Mechanisms to coordinate food safety stakeholders.
- Accountability framework for food safety.
- Approval process by the two lead ministries.

A completed initiative will give integrated structure to the government of Alberta's food safety activities. Each department and RHA can plan its activities for the longer term with assurance that its work will fit within the provincial food safety context.

FPT committees have produced useful results

FPT committee work has produced useful results, usually issue-specific policies that are rolled out to the provinces for implementation. The FPT committees also recognize they can improve their strategic effectiveness. For example, we mentioned that the National Food Policy Framework is developing a national food safety strategy to provide guidance to participants. In addition, decisions about FPT projects may soon become more science and risk-based due to the Canadian Food Inspection System Implementation Group's proposed priority-setting process.

Issues of strategic focus, overlap, & timely results

FPT committees can be more effective and timelier. The committees could focus more on strategic rather than specific issues. Despite mechanisms to synchronize the FPT initiatives, overlap can result. For example, at least three FPT committees address aspects of traceability. HACCP-related matters also overlap. At least two of the older committees sponsor projects that lay the foundation for HACCP. Now the Agricultural Policy Framework is poised to inject millions of dollars for HACCP implementation although the foundation is not complete. Project progress on some sub-committees and working groups can be slow. Some working groups are essentially dormant although their topic areas are important.

Health and Agriculture can coordinate on FPT objectives

Alberta Agriculture and Alberta Health would prefer to see more policy coordination as well as more timely and efficient solutions from the FPT process. Many of Alberta's broad food safety policy decisions originate from the FPT committees. Alberta's two departments should identify the decisions or policies that might practically flow from the FPT committees. They could then coordinate their influence on the FPT committees and achieve the province's objectives on a timelier basis.

DC9

DC9 is a committee without formal status. The directors created the committee themselves; they are not formally accountable to anyone. DC9 invites the Senior Manager of Alberta Health's Environmental Public Health group to its quarterly meetings, but only for information purposes. Neither Alberta Agriculture nor the federal regulators are routinely represented.

Generally, the Safe Food Committee's working groups have not been able to complete their assigned tasks. The challenges to overcome relate to DC9's lack of formal authority, its mandate (as the Committee itself has not settled on its terms of reference), and the difficulties in using province wide working groups to complete specific tasks.

Enhancing coordination

The two Alberta departments should strengthen the routine, "day-to-day" coordination of food safety programs. They can arrange stronger coordination as a pillar of the strategic planning initiative described earlier. The ministries can expand the existing mechanisms or create a new function. CAPIFS already operates under mutually agreed terms of reference but would require a new mandate to fulfill a broader role. DC9 could expand its membership and mandate but would require formal endorsement. Whatever mechanism is selected, the resulting function should emphasize results and accountability. This emphasis will focus the activity of participants and provide feedback on progress.

Informally, entities can encourage better communication amongst participants. However, informal systems are invisible and rarely produce accountability reporting to demonstrate their effectiveness.

HACCP initiative and the RHAs

Food safety process controls are a significant initiative for producers and processors. Alberta Agriculture is forging ahead with HACCP[33] and HACCP-based programs within its jurisdiction. Alberta Agriculture's goal is to achieve voluntary participation by industry. Currently the Department has the funding and wants to extend the initiative to RHAs but there will be coordination issues. There has been no direct discussion with the RHAs to see if they will adopt the program. And in our work with the RHAs, we found that they do not generally think HACCP programs fit their clients. RHAs clients are often small restaurants or processors who cannot support sophisticated control programs. Individual food establishments also need to invest to receive the government support. This may not be economically feasible for some of the RHAs' clients.

Challenges with HACCP implementation

Alberta Agriculture needs to work on their HACCP implementation plan to ensure that all parties are onside. In late 2005 a good deal of work went into preparing an action plan to qualify for the APF contribution. Some of it requires RHA and Alberta Health cooperation, but resources are already stretched in those entities. Food Safety's regional personnel also indicated their plant operators have concerns with HACCP. The operators have not indicated their interest or requirement for HACCP. For example, the

[33] Hazard Analysis Critical Control Point. We defined HACCP on page 72.

provincially regulated slaughter operators do not see an economic driver to their participation. Many milk processors feel they already meet high levels of regulation and inspection; HACCP would be more regulation.

FNIHB

We also have seen issues of poor federal-provincial communication such as the non-federally regulated issue discussed on page 104. We also noted that the director of the First Nations and Inuit Health Branch (FNIHB) of Health Canada feels his group has not been fully accepted in the provincial environmental health community. The director of FNIHB is a provincial Medical Officer of Health under the provincial *Public Health Act* and participates fully in the provincial COMOSH committee. However his inspectors do not have equivalent status on environmental health matters. For example, FNIHB inspectors are not executive officers under the *Public Health Act*. As a result, they do not have provincial legislative authority to perform inspections, write executive orders, or begin legal actions. In addition, the FNIHB's manager of environmental health does not routinely attend the DC9 meetings. This primarily impacts on-reserve Albertans who comprise about 3% of the provincial population. These Albertans do not fully benefit from the province's environmental health activities.

Implications and risks if recommendation not implemented

Without integrated strategies for food safety in the province, individual programs may not be as coordinated, effective or efficient as they could be. If regulators do not resolve jurisdictional and information sharing issues, food establishments in Alberta may not be routinely and fully inspected. Poor food safety performance in these establishments may not be detected.

Without coordination of routine programs, overlaps and gaps can persist. Without a clear plan from Alberta Agriculture, food safety partners including industry may not be onside or be able to cooperate with the proposed HACCP initiative.

5.9 Eliminating gaps in coverage

Recommendation

We recommend that the regional health authorities and the Departments of Health and Wellness and Agriculture, Food and Rural Development, working with federal regulators, eliminate the existing gaps in food safety coverage in Alberta. Gaps include:

- **Mobile butchers with unsanitary premises;**
- **Consistently administering the *Meat Facility Standard*;**
- **Coordinating inspections in the "non-federally regulated" sector.**

Background

Mobile butchers

Part of Alberta Agriculture's mandate deals with the slaughter of animals by mobile butchers. Alberta Agriculture does not inspect the mobile butcher's facility; the RHAs are responsible for facility inspection.

Meat Facility Standard was a collaborative initiative

The Meat Facility Standard is the result of collaboration between the Ministries of Agriculture and Health. The Standard outlines the standards that must be met by the meat processing plants. Some standards require documentation of procedures or results by the facility operator. Historically, PHIs inspected all provincially regulated meat facilities. Starting in 2000, Agriculture's meat inspectors began to enforce the Standard at meat facilities attached to slaughter facilities. PHIs continue to enforce the Standard at the remaining meat facilities.

Two types of CFIA inspections

Broadly speaking, the Canadian Food Inspection Agency (CFIA) does two types of inspection. First, it registers and inspects facilities that qualify under its federal meat, eggs, or other legislation. These are federally registered facilities and the CFIA's inspections are comprehensive. RHAs do not need to license or inspect federally registered facilities. Second, the CFIA has specific inspection responsibilities under other federal legislation. For example, the CFIA may inspect food establishments specifically for labelling or export certification purposes. These do not represent full inspections, nor are all the facilities inspected under these programs federally registered.

Criteria: the standards we used for our audit

The Alberta departments and regional health authorities, with other food safety regulators, should identify overlaps and/or gaps in the food safety continuum. Issues arising from overlaps or gaps should be resolved on a timely basis.

Our audit findings

Gaps in food safety coverage

Alberta's food safety regulators can point to events such as food recalls where inter-jurisdictional cooperation has led to the successful resolution of a food safety issue. However, our audit identified situations where cooperation has not been successful and as a result, food safety risks have not been mitigated. These gaps involve a limited number of food establishments in Alberta.

Twenty mobile butchers' facilities

In the course of their duties, Agriculture's meat inspectors often see the inside of the mobile butchers' facilities. Alberta Agriculture has documented about twenty mobile butchering operations with unsanitary facilities. However, these high risk situations have not yet been corrected by the provincial regulators. Alberta Agriculture has taken their photo documentation of the unsanitary facilities to the Department of Health.

Agriculture followed this path because they understand Health's Environmental Public Health Division to be the liaison with the RHAs. On the other hand, Agriculture is reluctant to seem aggressive in pushing their concerns onto the RHAs. Although Health now knows of these situations, Alberta Agriculture has not provided specific names and addresses for the facilities. As a result, Alberta Health has not notified the RHAs and the facilities continue to operate.

Both sides have concerns about the success of the *Standard*

The *Meat Facility Standard* highlights important historical issues between the health and agriculture regulators. Participants on the health side are still concerned that meat inspectors do not have the facility-based training and experience to implement the *Standard*. Alberta Agriculture believes they implemented the *Standard* as agreed, and they argue that Alberta Health and the RHAs did not invest the necessary resources to complete the initial surveys and follow up with periodic inspections. Since implementation in 2000, the parties have not jointly assessed the success or progress of the initiative.

Further analysis and communication required

In the course of our audit, we followed both public health inspectors and meat inspectors and discussed their work on the *Standard*. Alberta Health has toured the RHAs to reinforce the *Standard*'s business, although program demand in the RHAs does not allow meat facilities greater priority than other establishments. Since 1999, Alberta Agriculture has developed training and tools for its inspectors although we still see a degree of inspector discomfort with this activity. Overall, we conclude that the parties can better coordinate this initiative and, in particular, regularly assess its success.

"Non-federally registered" food establishments

There is another gap related to the second type of inspection performed by the CFIA. Those inspections are specific to a particular federally regulated issue such as labelling and are not comprehensive. However, the facility operators may interpret the federal process as full inspection of their operation. The issue of claiming to have been fully inspected by the CFIA is called the "non-federally registered" problem. Some of these "non-federally registered" facilities tell provincial public health inspectors that their facilities are exempt from provincial jurisdiction because they have already been inspected by the CFIA. The result is a facility that may never be comprehensively inspected by either federal or provincial inspectors.

Inter-jurisdictional cooperation required

The non-federally registered sector is a cross-Canada issue being addressed by the FPT Food Safety Policy Committee. Until a national solution develops, the CFIA is prepared to work with the provincial health regulators to resolve individual situations. The RHAs need to list the facilities which they think might be "non-federally registered" to the CFIA as the CFIA does not have the resources to catalogue all food establishments in Alberta. In the

end, the CFIA and the RHAs need to identify and discuss all "non-federally registered" facilities in Alberta and ensure that food safety risk is addressed through inspection or equivalent process.

Implications and risks if recommendation not implemented

Without timely action on known food safety issues, food safety regulators accept an increased risk to Albertans' health. If regulators do not resolve jurisdictional and information sharing issues, food establishments may not be routinely and fully inspected. Poor food safety performance in these establishments may not be detected.

5.10 Accountability

Recommendation No. 12

We recommend that the Departments of Health and Wellness and Agriculture, Food and Rural Development further develop their capacity for food safety accountability in Alberta. This includes ensuring that information systems can produce the accountability information that the two ministers need, both for individual ministerial accountability and for integrated cross-ministry purposes.

Background

Ministry-specific & province-wide accountability

In this recommendation we focus on ministerial and cross-ministry accountability. Accountability is the requirement to answer for expected results and resources used. Our underlying premise is that in this multi-ministry program area, the Ministers of Health and Agriculture should be prepared to offer integrated accountability. This would be complementary to specific accountability for each ministry's programs. For example, the Minister of Health has specific accountability for the *Public Health Act* and the Minister of Agriculture for eight acts.

Role of performance measurement

Performance measurement supports accountability reporting and management decision making. Measures indicate whether the reporting entity's programs are achieving their objectives. Where the measures indicate that programs are not producing the desired results, entities need to consider adjusting their programs. Our audit criteria also require quantifiable, reliable performance measures.

Criteria: the standards we used for our audit

The Ministers of Health and Agriculture should be able to demonstrate accountability for the integrated food safety program in Alberta. In addition, individual entities should also be accountable for their specific food safety mandate. Each entity should contribute to integrated accountability by reporting on its operations (e.g. cost and outputs) and effectiveness (meeting objectives). Reporting should include quantifiable performance measurement

where possible. The entities should use the accountability process to enhance program design and delivery.

Our audit findings

Systems to support joint accountability are required

To be prepared to offer joint accountability for food safety, the Ministers need a system to collect and report information about food safety strategies, activities, and results from across the province. We found that there is no system to collect and report on an integrated province wide basis. Having a system in place would provide the Ministers with the facts needed to report on their shared responsibility.

No Health system to support accountability

Alberta Health does not have a system to collect and report information about food safety or environmental health from the RHAs. Generally, Alberta Health does not ask for nor receive from the RHAs regular information on plans, performance, or outcomes. Alberta Health collects very little food safety data from the RHAs, except for notifiable diseases and outbreaks as required by regulation. Should the Minister be called to report on food safety or environmental health in general, Alberta Health would have to collect food safety data from the RHAs on an ad hoc basis.

Environmental health might be the subject

To be accountable for responsibilities under the *Public Health Act*, it is reasonable to focus more broadly on environmental health rather than the food safety program area. All RHAs as well as Alberta Health have environmental health units and the Minister is ultimately accountable for all of these programs. Alberta Health would be the entity to define and collate the data for province wide accountability. One goal for reporting would be to support the Minister's accountability requirements under the *Act*. Another would be to support integrated food safety accountability. A third goal would be to help determine the effectiveness of current activities.

Accountability systems can be expensive

Designing, developing, and maintaining systems to gather key data can be expensive and resource intensive. Our work has shown that the Disease Control and Prevention Branch, and especially the Environmental Public Health Program, are fully occupied with their current responsibilities. To add major systems development work to their responsibilities will require careful internal resourcing and extensive coordination with stakeholders.

RHAs should support province wide accountability

In the RHAs, environmental health is a small component of the entity's overall responsibilities. Participating in the province wide initiative led by Alberta Health would prepare the rural RHAs to report if required. The large urban RHAs already collect and analyze more data than the rural RHAs. As a result, they may be better positioned to support province wide accountability.

Accountability systems exist at Agriculture

Because food safety is one of Alberta Agriculture's six *Business Plan* goals, it receives considerable planning and reporting attention in public documents. Alberta Agriculture has processes in place to establish strategies, performance measures, and targets, as well as to report results through the *Annual Report*.

Agriculture's measures can be enhanced

Three 2004–2005 Ministry performance measures are linked to food safety. We identified three issues with the measures. First, the systems to support the surveillance program measure did not produce complete and reliable results. Our earlier recommendation about a complete project list on the Project Reports Database addresses this issue. Second, the HACCP measure lacked a clear methodology to measure compliance with HACCP. Reliable and auditable documentation was unavailable. Consequently, compliance with HACCP cannot be quantified. Third, the OFFS measure relates to implementation by producers. This measure depends on a national body to develop and implement OFFS accreditation. As the national body is still in the process of development and implementation, the measure as defined cannot be quantified. The Ministry intends to amend the measures so that the HACCP and OFFS issues can be addressed.

Implications and risks if recommendation not implemented

Without a system to collect and collate province wide performance data from the RHAs, the Minister of Health and Wellness will not be able to assess progress against Ministry or integrated province wide food safety objectives. Alberta Health would also not have an important tool for analyzing current progress and designing future programs. Without reliable performance measures, the ministries do not have key indicators for accountability and management purposes.

Reforestation

1. Summary

Introduction—this report explains why the Department of Sustainable and Resource Development should strengthen its systems to regulate reforestation.

Department's role is to regulate forestry activity

Department's role—the Department's regulatory activities include developing and maintaining standards, monitoring and enforcing compliance with those standards and forest management agreements, reporting on its performance, and evaluating results.

Audit scope and objectives—our objective was to assess if the Department has adequate systems to regulate reforestation.

Public forest land converted to other uses is not required to be reforested

The forests within the scope of this audit are those that remain after conversion of portions of existing forest to other uses. The Department authorizes these conversions that reduce the amount of the forest that is available for harvesting and reforestation. These conversions are for purposes such as oil and gas extraction and recreation.

We examined only reforestation of land that remains after these conversions to other uses. Forest land that is converted to another use is not required to be reforested. We did not examine the systems to manage and publicly report the conversion of forestry land to other uses.

Department has taken steps to improve regulatory activities but needs to do more

Conclusion—in recent years, the Department has undertaken several initiatives to improve its regulatory activities. Key initiatives were to implement a reforestation monitoring program, to emphasize to forestry operators the importance of their reforestation data, and to develop for public reporting information on reforested areas satisfactorily restocked. These initiatives were fundamental for effective regulation. However, the Department must do more.

The Department cannot yet assess if the resources it is applying to its regulatory activities are appropriate.

The Department needs:

- timely reporting on its performance as a regulator
- better-quality assurance over the completeness and accuracy of information from forestry operators (plans and results)—given its heavy reliance on the information
- stronger review of forestry operator plans, field inspections and enforcement systems for effective monitoring

Lack of performance information is a critical problem

The lack of performance information is a critical problem. Without information on results, it is difficult or impossible to assess if today's actions will achieve the necessary, long-term solutions. For example, it will be difficult for the Department to evaluate alternative reforestation standards being developed by forestry operators.

Future work—the Department leads planning and management practices to develop common goals for the use of Alberta's public lands that cross multiple stakeholders and demands. This place-based stewardship approach to natural resource management combines the efforts of other ministries.

We intend to obtain an understanding of the government's progress introducing a land-use framework. With this knowledge, we will consider following up this reforestation audit with an examination of the systems used to manage the conversion of forest land to other industrial uses. The conversion of land results in the removal of trees from the forest. "Currently, the forest industry is directly harvesting approximately 200,000 hectares annually in the public forest landbase through forest harvest and road construction. On this same landbase, the direct area of forest removed by the energy sector through seismic lines, wellsites, pipelines, and surface mines is approximately 35,000 hectares annually."[1]

2. Audit scope and objectives

The Department is responsible for administering public lands in Alberta, including lands that are forested.

Scope does not include an examination of forested areas that are converted to other uses

The forests within the scope of this audit are those that remain after conversion of existing forest to other uses. The Department authorizes conversions that reduce the amount of the forest that is available for harvesting and reforestation. These conversions are for purposes such as oil and gas extraction and recreation.

[1] Forem Consulting Ltd., ALCES database, June 2006

We examined only reforestation of land that remains after conversion to other uses. We did not examine the systems to manage the conversion of forestry land to other uses. Also, we did not examine the public reporting of these conversions.

Our objective was to assess if the Department has adequate systems to regulate reforestation.

3. Background

Economic and environmental importance of forest industry

Approximately one half of Alberta is public forest land

Alberta contains approximately 35 million hectares of public forest land. The forest industry sustains 19,000 jobs[2] and produces over $5 billion[3] in shipments each year. Environmentally, forests cycle carbon, produce oxygen, protect watersheds, and provide habitat for wildlife. In addition, forests provide humans with recreational areas.

Provincial authority to regulate forests—the province has authority under the *Constitution Act* to regulate public forest land. The Department of Sustainable Resource Development is responsible for managing public forest lands in Alberta under the *Forests Act*, the *Public Lands Act* and the *Timber Management Regulation*. The Department delegates this responsibility to the Public Lands and Forests Division and, within that Division, to the Forest Management Branch (the Branch).

Types of forests

	Deciduous	Coniferous
Species	Aspen and poplar	White spruce and pine
Uses	Particle board, pulp and paper, veneer	Lumber and some pulp and paper
Estimated years for trees to be commercially viable	80	100

Reforestation is a key to long term forest management

Sustainable forests—sustainable forests are an important goal of the Alberta government. In *Alberta's Commitment to Sustainable Resource and Environmental Management* document, the government states, on page 4, that: "renewable resources shall be managed to ensure their long-term viability and future use potential." Reforestation is key to both long-term forest management and sustainability. Sustainability is commonly considered a balance of social, economic, and environmental factors.

[2] National Forestry Database Program, Statistics Canada and Selected Forestry Statistics, 2005 data
[3] National Forestry Database Program, Statistics Canada and Selected Forestry Statistics, 2003 data

Harvesting forests—in managing forests on public land, the Department considers several factors, such as wildlife, recreation, and biodiversity. The Department's objective is to restrict harvesting so that it does not exceed the ability of the forest to grow back. The Department considers factors such as losses due to fire, insects and disease, as well as industrial activity, when approving harvest levels. Harvest levels over a five-year period must be within the annual allowable cut the Department sets for designated areas.

The Department authorizes harvesting

The Department manages the harvesting of public forest land in three ways: forest management agreements (management agreements), timber quotas, and timber permits.

20 Forest management agreements with 17 companies

Forest management agreements—Alberta now has 20 of these agreements, with 17 companies. Under these agreements, forestry operators can establish, grow, harvest, and remove timber from a particular area of land for 20 years, without owning the land.

The *Timber Management Regulation* has key forestry operator submission requirements

Under the *Timber Management Regulation*, forestry operators must submit the following reforestation material to the Department:

- annual operating plan—to explain which areas agreement holders plan to reforest
- report on reforestation activities-completed by May 15 of the year following reforestation
- establishment surveys—to assess progress on re-growth of trees in harvested areas
- performance surveys—the final step in assessing reforestation success

Forest management agreement holders must submit the following additional documents:

- detailed forest management plan—this five-year plan gives the Department an overview of reforestation activities
- operating ground rules—important to reforestation because they outline the reforestation practices that forestry operators will follow.

Timber quotas and permits—the Department can also authorize individuals and companies to harvest by issuing them either a timber quota or a timber permit. A quota lets the holder harvest a percentage share of the annual allowable cut in a designated area for up to 20 years. Timber permits are issued for 20 days to 2 years to make available a set volume of timber to meet local demand, such as Christmas trees and firewood. Permits can be issued for allowable cuts less than 300 cubic metres[4].

The Department sets reforestation requirements based on the annual allowable cut under either a permit or a quota, as follows:

- permit holders must pay a reforestation levy to a delegated authority called the Forest Resource Improvement Association of Alberta (the Association)
- quota holders who harvest less than 10,000 cubic metres[5] each year can elect either to reforest or pay a reforestation levy to the Association
- quota holders who are allowed to harvest more than 10,000 cubic metres each year must reforest

Reforestation standards—reforestation first became mandatory in Alberta in 1949. In 1991, the legislation changed and the province delegated reforestation responsibility to forestry operators. Reforestation is now a requirement of their licenses. In turn, the province regulates them. Each operator manages a specific area and reports to the Department on its activities and results. However, the ultimate responsibility for the successful management of Alberta's forests remains with the Department.

Reforestation should begin within 2 years after harvesting

Current legislation requires reforestation activities to take place within two years after the end of the year of cut. At certain milestone dates afterwards, the results must meet the Department's *Alberta Regeneration Standards*, established under the *Timber Management Regulation*. The standards continue to evolve as forestry science advances, with significant changes every decade. "Free to grow" standards for conifers, were first added in 1991.

Reforestation standards are in the *2003 Alberta Regeneration Survey Manual*

In 2000, the Department issued new Standards, covering both coniferous and deciduous stands. The latest version is in the Department's 2003 *Alberta Regeneration Survey Manual*. Standards are expressed as measurable criteria, such as the percentage of conifers meeting the height requirements for a certain age that should be found in a 10 square metre sample of the harvested area.

[4] 300 cubic metres of timber is about 400 logs (19m tall and .22m in diameter), enough timber, after being cut, to fill about 5 school buses

[5] 10,000 cubic metres of timber is about 13,000 logs (19m tall and .22m in diameter), enough timber, after being cut, to fill about 160 school buses

Seeds are collected and sent for processing and storage at Alberta's Tree Improvement and Seed Centre

Reforestation from start to finish—reforestation begins with the selection of a harvest system followed by a series of activities such as site preparation, which may include herbicide application, and may include the planting of seedlings. To get compatible seedlings, forest operators collect seeds and cones from the general area of the cut-block before harvesting. These go to one of four private-sector processing facilities. From there, the seeds are transported to Alberta's Tree Improvement and Seed Centre for storage.

Surveys are required on areas that are reforested

Once the area has been harvested, the company contacts the Centre and the zone-specific seeds are sent to one of several nurseries where seedlings are grown. The seedlings are generally planted at the harvest site the year after harvest, depending on the preparatory treatments that may first be required on the site. After the initial reforestation activities are completed, the forestry operator does an establishment regeneration survey. This may show that more reforestation activities are necessary, for example, tending of vegetation competing with crop trees or "fill-in" planting.

After the establishment survey, an area must be surveyed again. This is the performance survey and a successful result on this means that the forestry operator no longer has to perform reforestation activities on that area. A successful performance survey fulfills the reforestation requirements.

How the Department regulates reforestation—the Department monitors compliance with legislation by reviewing detailed forest management plans and annual operating plans, conducting scheduled and random audits and field checks, and reviewing self-reporting by forestry operators.

Performance surveys must be completed by the 14th year after reforestation begins

To assess the growth of new forests based on the Standards, forestry operators must hire an independent specialist to prepare an establishment regeneration survey, generally within 4 to 8 years of harvest for conifer areas, and 3 to 5 years for deciduous areas, and then a performance survey within 8 to 14 years of harvest. The operator submits these surveys to the Department for review and follow-up of deficiencies.

The Department performs field inspections and reviews forestry operator submissions

To verify industry and Association compliance with the Standards, the Department drafted a Reforestation Monitoring Program Manual that advocates a systematic and risk-based approach to field audits. The Monitoring Program focuses on examining information reported to the Branch and entered into the Alberta Regeneration Information System (ARIS).

In addition to these field audits, the Branch annually produces non-compliance reports based on ARIS data. By May 15 each year, all forestry operators, including the Association, must submit information to ARIS summarizing the preceding year's reforestation program. The non-compliance reports highlight

cut-blocks that have not received reforestation treatments, surveys, or re-treatments required by the Standards. The Branch follows up on non-compliance.

The Department can impose penalties for non-compliance

If the Branch discovers regulatory violations, it asks the forestry operator to correct them. Under the *Forests Act* and the *Timber Management Regulation*, the Department can impose penalties. Then the Minister must disclose the company's name, location, description of the violation and the penalty amount.

It takes 80 years to grow a deciduous tree to harvestable size

Risks related to reforestation—reforestation is a long-term process that can conflict with the short-term financial incentives of the industry. It takes 80 years to grow a deciduous tree to a harvestable size and 100 years to grow a coniferous tree. Companies can't profit in the short term from reforestation.

It takes 100 years to grow a coniferous tree to harvestable size

Since the vast majority of Alberta's working forest is Crown land, it is imperative that the Department set adequate reforestation standards and actively monitor progress to ensure that today's young trees grow into forests that will benefit Albertans in the future. In particular, it is critically important to establish a new stand and ensure that the regenerating forest meets free to grow standards.

Coniferous trees need help getting started

Regeneration of a forest can occur naturally but it may not be with the original species of trees. Certain species of trees such as higher value coniferous trees need help getting started; otherwise they are squeezed out by other vegetation.

4. Conclusions

Criteria	Conclusion	Related Numbered Recommendation
Standards The Department should have a system to maintain regulatory standards and policies that support the legislative requirements.	Met	
Performance Information The Department should measure and report on its performance as the regulator of reforestation	Not met	13
The Department should have controls in place to collect complete, accurate and timely reforestation information.	Partially met	14

Monitoring and enforcement The Department should have processes to ensure that forestry operators reforest harvested lands in accordance with the regulatory standards	Partially met	15
The Department should monitor compliance with, and enforce, its reforestation regulatory standards	Partially met	15
Forest Resource Improvement Association of Alberta The Department should have systems in place to ensure that harvested lands for which the Forest Resource Improvement Association of Alberta is responsible are reforested in accordance with regulatory standards	Partially met	16
Seed Inventory The Department should ensure that its seed inventory is managed and maintained to support reforestation goals.	Partially met	

5. Our audit findings and recommendations

5.1 Standards

Background

The legislation governing forests gives the Minister responsibility for authorizing removal of trees on public lands and for deciding what constitutes satisfactory reforestation.

The following is an overview of the authority of the Minister of Sustainable Resource Development as it relates to reforestation.

Minister's authorization is required to remove forest growth from public land

The *Forests Act* states that without the Minister's authorization no person shall cut, damage or destroy or cause to be cut, damaged or destroyed, any forest growth on public land—see section 10 of the Act.

The *Timber Management Regulation* has these key reforestation standards. In some cases, the Minister has authority to allow for exceptions to these requirements (section numbers refer to the Regulation):

- Reforestation must take place within two years after the end of the cut of the area—except as otherwise authorized by the Minister—see section 141.1(1).

- For areas to be reforested to coniferous or mixed wood standards, a forestry operator must submit:
  - an establishment survey for the area that is acceptable to the Minister no sooner than four years and no later than eight years after the end of the year of the cut of the area—see section 141.6.
  - a performance survey for the area that is acceptable to the Minister no sooner than 8 years and no later than 14 years after the end of the year of the cut of the area, provided that an acceptable establishment survey has been submitted—see section 141.7.

Two surveys are required to determine if area is satisfactorily reforested-an establishment survey and a performance survey

- For an area to be reforested to deciduous standards, a forestry operator must submit a deciduous establishment survey for the area that is acceptable to the Minister no sooner than three years and no later than five years after the end of the year of cut of the area—see section 141.8.
- Where a forestry operator knows that reforestation of a cut area is not likely to meet reforestation standards without additional treatment, he can submit a retreatment plan and a written commitment to carry out all reforestation operations that the Minister approves as necessary to reforest the area to meet the applicable reforestation standards—see section 141.9.

Retreatment plan can be submitted to the Department by forestry operator if results of survey not satisfactory

- Reforestation standards are those standards included in the *Alberta Regeneration Survey Manual*—see section 122.1
- The retreatment plan described in section 141.9 must be completed before the end of the year following the year in which the retreatment plan was submitted—see section 142. The forestry operator must survey that area by the end of the third year following the retreatment and must retreat until a survey establishes to the Minister's satisfaction that the applicable reforestation standards have been met—see section 142.1(2) and (3).
- For areas cut after May 30, 2000, a forestry operator whose annual allowable cut is 10,000 cubic metres or more must reforest. When the annual allowable cut is less than 10,000 cubic metres, then an individual or forestry company can choose either to reforest or pay a reforestation levy to the Forest Resource Improvement Association of Alberta—see section 142.3.
- A forestry operator must submit, by May 15th of each year, a written report summarizing the preceding year's reforestation program—see section 143.2.
- If a forestry operator does not comply with the regulated reforestation requirements, the Minister has the authority to:
  - suspend some or all of the authorized timber harvesting and reforestation activities,
  - perform whatever work is necessary to mitigate or rectify the unsatisfactory conditions resulting from the non-compliance, or
  - do both—see Section 143(1).

The *Timber Management Regulation* includes consequences for non-compliance

Criteria: the standards we used for our audit

The Department should have a system to maintain regulatory standards and policies that support the legislative requirements.

Our audit findings

The Department has sound processes for maintaining regulatory standards

The Department has sound processes for maintaining regulatory standards. The evidence is as follows:

- The Department initiates standards in response to changes in science. For example, the Standards for Tree Improvement in Alberta include standards for wild and improved seed collection in Alberta. The Department has staff specialists who attend scientific and forest management conferences to keep up-to-date on developments in other provinces and in research.
- The Department obtains reports from forestry specialists. For example, in August 2001, the Alberta Reforestation Standards Science Council delivered recommendations on the reforestation regulatory framework to Alberta's Minister of Sustainable Resource Development. We reviewed the Council report and concluded that:
  - Council members had significant qualifications
  - the Council's work was adequately supported by the Department
  - there was significant participation from industry, government and other organizations
- The Department consults with industry, industry associations, and the Association in developing new standards.
- The Department offers a series of workshops when key new standards are introduced. The workshops provide a mechanism for introducing the new standards to industry and the forestry offices across Alberta.

5.2 Performance information

Recommendation No. 13

We recommend that the Department of Sustainable Resource Development produce appropriately timed reforestation performance reports to confirm the effectiveness of its regulatory activities.

Recommendation No. 14

We also recommend that the Department of Sustainable Resource Development:

- **strengthen its quality control process for performance information**
- **re-examine whether achieving the target for *reforestation rate in harvested areas* indicates satisfactory reforestation**

Background

Regulatory activities—the Department's regulatory activities include developing and maintaining standards, monitoring and enforcing compliance with those standards and forest management agreements, reporting on its performance, and evaluating results.

Department's database is used to: record survey results, monitor and identify non-compliance

Performance information—the Alberta Regeneration Information System (ARIS) is a database designed to help the Department monitor and enforce compliance with reforestation standards. The Department uses data from this system to:

- select samples for field monitoring of treatments
- identify non-compliance with legislation

ARIS is also the source of the data used to report on reforestation results.

No results reported

The Ministry included a reforestation performance measure in its 2005–2008 business plan. The performance measure is the reforestation rate in harvested areas and the expected target is 80% or greater. However, the Ministry notes in its 2005-2006 annual report that no results are reported as further work to improve data to support this measure is currently underway.

A performance survey is key in determining if reforestation standards are met

Timely performance reporting based on complete and accurate information helps those responsible for reforestation (forestry operators and government managers) assess whether they are meeting goals. It also allows the public to understand whether the Department's regulatory activities are helping to meet goals.

The Department has a new measure that summarizes the results of the performance surveys

Reforestation rate—the reforestation rate in harvested areas measure is based on the results of performance surveys. Performance surveys are key indicators in determining if reforestation standards are met. If the performance survey results show that the forest is satisfactorily restocked, the Department no longer requires the forestry operator to perform additional treatments on the area. The results of the performance surveys are input into ARIS from data provided by the forestry operators. An independent certified surveyor must complete the performance survey. The Department is responsible for certifying surveyors and informing the surveyor if additional training must be completed to maintain certification.

Criteria: the standards we used for our audit

The Department should measure and report on its performance as the regulator of reforestation.

The Department should have controls in place to collect complete, accurate and timely reforestation information.

Our audit findings

Department does not produce sufficient performance reports on reforestation results

Sufficiency and timeliness of reforestation performance information—the Department's one performance measure—reforestation rate in harvested areas—does not provide complete information on reforestation in Alberta. Management needs additional periodic reporting, including performance measures and indicators, to assess the results of its regulation of reforestation activities. The following are examples of performance reports that could provide information on reforestation:

- a summary of strata maintenance—the Department has a standard requiring forestry operators to maintain the strata. The percentage variance in strata is an annual calculation done by each forestry operator. The calculation is based on areas that are expected to be harvested and planned reforestation activities. However, the Department does not have summary performance reporting to determine if strata is being maintained over time and within forested public lands.
- a summary of survey results—an establishment survey is completed on reforested areas five to eight years after the area has been replanted. This interim survey gives management information on whether reforestation standards are being met. It is useful because it is early enough for additional treatments to improve the outcome before the final performance survey. We could not find evidence of management producing reports on the overall results of establishment surveys or subsequent treatment activity.
- a summary of treatment uses—herbicide application is an example of a treatment used in helping a reforested area achieve restocking standards. We could not find evidence of management producing reports on the frequency or extent of use of this or other treatments.

Department needs to improve quality control process over forestry operator data submissions

Quality control process for performance information—because the ARIS database is not sufficiently controlled, the Department does not know if forestry operators are meeting their requirements under the *Timber Management Regulation*—to provide complete and accurate data on their reforestation activities. The following are areas of control weakness:

- For the 2004–2005 harvest year, 10 forestry operators harvested over 10,000 cubic metres, but their reforestation activities were not included in ARIS. The Department is now assessing if these forestry operators are keeping accurate and complete information and deciding how to update ARIS with this information.

Inadequate checks to ensure all areas requiring reforestation are recorded in database

- There are insufficient processes to identify inconsistencies in the data within ARIS and inconsistencies between ARIS and other forestry data used by the Department. For example, there is an inadequate process to verify the reasonableness of the ARIS database by reference to information in the Department's systems tracking timber revenue. In other words, there

is no check that all areas tracked by the Department as harvested in another database are successfully tracked as reforested in ARIS. Another example is that forestry officers do not consistently agree forestry operator submissions, such as strata balancing calculations, to data in ARIS. In this case, forestry officers cannot independently verify industry calculations.

- Despite the Department's considerable efforts to establish an accurate and complete database, a substantial number of the incomplete or erroneous data identified in 2004 during the non-compliance investigation have not been corrected in ARIS.
- The establishment and performance survey information can be inappropriately changed in ARIS. There are inadequate controls to preserve the integrity of the survey data.
- The Department does not obtain assurance on the quality of the systems forestry operators use to record data for ARIS.

The Department does not have an adequate quality control process to ensure that its reforestation performance measure is accurate and complete. We examined 47 performance and establishment survey submissions and found that:

Process for review of surveys not established or consistently applied

- The process for performing a detailed review of the survey is not formalized or consistently applied.
- Three surveys were completed using an invalid certified surveyor number. On further investigation, we found that the surveyor who completed these surveys was using an incorrect number and had not taken required courses to maintain certification.
- In one case, the forestry operator did not submit copies of surveys or tally sheets. Rather, the submission was a letter indicating the results of each survey. Therefore, a forestry officer could not recalculate or review the survey results.
- There is an inadequate process to match the results of the performance surveys with the information input into ARIS. We found examples where survey information recorded in ARIS was not correct. The surveys were reported as satisfactory although the results showed that the area was not satisfactorily restocked. Although the forest operators detected the error and informed the Department, we could not find evidence of a process to ensure that ARIS was updated with the correct information.
- There is an inadequate process to assess if the number of hectares for the area were reported accurately in ARIS. Data on the survey results and hectares affected by the survey are used to calculate the Department's performance measure.

Performance measure of reforestation rate in harvested areas

Methodology—the *Alberta Regeneration Survey Manual* created under the *Timber Management Regulation* states that a cutblock will be considered satisfactorily restocked when 80% or more of the sample plots meet the restocking standard. The *Timber Management Regulation* states that if an area is not satisfactorily restocked, the area must be treated until the Minister is satisfied with the results of subsequent surveys or re-treatment plans. In effect, successful reforestation requires standards to be met in each and every cutblock.

However, the current methodology for *reforestation rate in harvested areas* is designed to compute the area of those cutblocks satisfactorily restocked as a percentage of the area of all cutblocks surveyed. A clearer description of the current methodology is *Reforested area satisfactorily restocked as evidenced by the 20XX performance surveys.*

Target of 80% may not meet intent of legislation

Since the target for this measure is 80% or greater, having as much as 20% of reforested area not meeting standards would be acceptable. In our opinion, this target is not compatible with the intent of legislation.

Implications and risks if recommendations not implemented

If the Department does not measure the results of its regulatory activity, it is unable to assess if the resources it is applying are appropriate.

Incomplete and inadequate information on progress increases the risk of incorrect decisions and conclusions.

5.3 Monitoring and enforcement

Recommendation No. 15

We recommend that the Department of Sustainable Resource Development strengthen its monitoring of reforestation activities by:

- **bringing more rigour to the review of forestry operator plans**
- **making its field inspection program more effective**
- **promptly identifying and correcting non-compliance with legislation**

Background

Forest Management Agreement holders must submit a 5 year plan to the Department for approval

Planning—the Department requires forest management agreement holders to prepare a detailed forest management plan within 3 to 5 years of signing their forestry management agreement and submit it for approval. The detailed plan includes a description of the proposed harvests, approximately when they will take place, and the agreement holder's reforestation plans.

All forestry operators must submit, for approval, an annual plan outlining reforestation process.

According to Section 98 of the *Timber Management Regulation*, forestry operators must submit an annual operating plan, prior to harvesting, to the Department for approval. This plan must include additional detail on their planned harvest and reforestation processes for the ensuing year. The Department has a detailed planning manual that provides some guidance to forestry officers reviewing these plan submissions. This guidance provides a framework for the review process.

The operating ground rules establish timelines for submitting annual operating plans. Forestry officers review the annual operating plans and the area manager approves them. The forest planning group at the Forest Management Branch reviews the detailed forest management plans and the Executive Director of the Forest Management Branch approves them.

We examined:

- the 2004–2005 annual operating plans for 10 agreement holders and 10 larger quota holders at six area offices.
- the detailed forest management plans for 10 agreement holders at the Forest Management Branch.
- other documentation including correspondence related to reforestation and strata balancing declarations.

Monitoring—the Department implemented the Reforestation Monitoring Program in 2004–2005.

The Department does field inspections of reforested areas

The Department has provided training to the area forestry officers on implementing this new process. The program is summarized as follows:

- Field sites where reforestation activity has occurred and been input into ARIS are selected
- A risk assessment based on forestry operators is completed and used to select those field sites that will be inspected
- The reported reforestation activity is compared to the forestry operator's annual operating plan
- A field visit is conducted to assess whether reforestation activity has occurred
- The results of field monitoring are documented on a standardized form
- The information on the form is submitted to the Department for compilation into a database

Enforcement notices must be issued on a timely basis

Enforcement—under section 53(3) of the *Forests Act*, an enforcement notice cannot be issued more than two years after a contravention, or the date the evidence of the contravention first came to the attention of a forest officer, whichever is later. Arguably, this implies that the limitation period starts on the day that an area office accepts a company submission—even if the Branch doesn't take action then.

In July 2004, the Department started the 1991–2004 non-compliance review. The main objective of this review was to correct data problems in ARIS.

The Department has developed some processes to ensure compliance. These processes include:

- documenting the steps for rectifying non-compliance
- documenting enforcement decisions and reasons for enforcement actions
- segregating investigation and enforcement duties.

Criteria: the standards we used for our audit

The Department should have processes to ensure that forestry operators reforest harvested lands in accordance with the regulatory standards.

The Department should monitor compliance with, and enforce, its reforestation regulatory standards.

Our audit findings

Planning

The process for reviewing forestry operator plans is not rigorous enough. Specifically, it does not ensure:

- prompt identification of quota holders who must submit an annual operating plan
- complete and consistent review of submitted plans
- proper follow up of problems

Lack of clarity in defining reforestation requirements—when another industry removes, cuts or damages trees from a forest management unit, the industry is generally required to pay a timber damage assessment to the forest management agreement holder. In most cases, a fee to reforest the area is part of the timber damage assessment. The Department does not have adequate processes to ensure that these areas are reforested.

In the "Reclamation Section" of the *Public Land Operational Handbook* December 2004, a standard states that "Regrowth and performance of desirable tree species on harvested or, as applicable, other denuded forested lands shall be in accordance with the Free-to-Grow standards outlined in the *Alberta Regeneration Survey Manual* (May 2000)". However, the practice is that the land has to be reclaimed and does have to meet these standards. Although the term "as applicable" is used, it is not clear when to apply Free-to-Grow standards, as outlined in the *Alberta Regeneration Survey Manual*.

The Department's reviews of plans needs more rigour

Inconsistent and incomplete review of forestry operator submissions—the Department does not have consistent and complete processes for reviewing the plans. The extent of the review varies between forestry offices. In some cases, there was evidence of a checklist used to support and document the review. In other cases, the experience and knowledge of the reviewer was considered sufficient. We saw plans submitted without stratum information. This information is important in assessing if a proposed treatment or replanting activity is appropriate.

The Department approves smaller quota holders' annual operating plans without the required plans for reforestation. We obtained information on operating plans submitted by thirteen smaller operators. Four of these annual operating plans were approved without including planned reforestation activities.

There is an inadequate process to ensure that each annual operating plan submitted by a forest management agreement holder is consistent with its detailed, five-year forest management plan.

Additional guidance needed

Forestry officers require more guidance and procedures on how to review strata balancing calculations. Strata balancing submissions calculate the percentage of planned change in the mix of tree classes.

The Department approves plans with conditions

Follow-up is needed to ensure that conditions are met

Insufficient follow-up of problems identified in reviews —there is no clearly defined process to ensure that the concerns from review are dealt with. There were several instances where plans were approved with conditions that the forestry operators had to fulfill. The Department does not have adequate processes to ensure that the forestry operators fulfill these conditions.

Basic procedures lacking—there were two cases where the forestry offices could not find a copy of the approved operating plan.

There are inadequate processes to track when forestry operators should submit plans. Submission dates for annual operating plans vary depending on the timelines outlined in the operating ground rules.

Field Inspection

Department needs to prioritize field inspections

Selection methodology deficient—the methodology used for deciding where to do field monitoring does not optimize the value from the monitoring effort. For example, there is no systematic way to ensure that establishment and performance surveys are selected for field checking or that sufficient weight is placed on the importance of surveys in identifying reforestation success. Surveys are critical because they identify the need for further or different treatments. An incorrect performance survey could erroneously indicate that a forestry operator has no further reforestation obligations.

In some cases the physical evidence left behind by surveyors to identify sample locations no longer exist at the time of the Department's field visit, making the timeliness of monitoring critical.

Selection of sites to inspect is based on the data provided by the forestry operators

Planned treatments in annual operating plans, and treatments required as a result of monitoring activity, will not be selected by the Department for inspection unless the work is reported in ARIS. ARIS is the source of selection of field sites to be inspected. This selection methodology will not select sites where either the operator failed to perform required treatments or treated the site and did not report it.

Field monitoring focuses on a specific treatment not a series of treatments

Field monitoring not efficient—field monitoring is not as efficient as it could be. The Reforestation Monitoring Program focuses on single treatments and not on a series of treatments. A field inspection is based on a reforestation activity (treatment) that has been reported in ARIS. To require the forestry officer to assess only the selected treatment is not cost effective. Once a forestry officer travels to an inspection site, it would be more efficient for the officer to report on the condition of the area taking into account all previous activity.

Processes for reporting and following up not implemented—the Department has developed a process for reporting on the results of field monitoring and following up on deficiencies. However, this process has not yet been implemented.

Enforcement

Enforcement goals not clear—the Department has not developed a clear set of enforcement goals. Without goals, those responsible for enforcement will not understand the Department's view of the role of enforcement in achieving reforestation success.

Failure to promptly identify violations—the Department has not developed processes to ensure the prompt identification of violations.

Waivers of penalties occur when enforcement action is not timely

In 10 case files we examined from the Department's 1991–2004 non-compliance review, penalties of $186,000 were waived. Investigation and enforcement action resulted in penalties of $14,000 for two non-compliance matters. There were two main reasons for the waivers:

- the Department had exceeded the two-year enforcement deadline in the *Timber Management Regulation*,
- the contravention resulted from the Department giving incorrect information to a regulated party.

The Department has not developed a plan to deal with the system weaknesses identified in its non-compliance review.

The Department has not yet decided if any enforcement actions are necessary based on the ARIS data submitted in May 2005. The data is critical as it represents the first 14-year performance survey results. The risk is that the Department will miss the two-year enforcement deadline.

Training on enforcement not yet completed

Enforcement process—the Department has provided some training to forestry officers to ensure that non-compliance matters are appropriately handled and documented. However, this training has not been provided to all forestry officers.

Department has to assess if self reporting of non compliance is effective

The Department has signed self-reporting protocols with some operators. The protocols detail how and when operators will report non-compliances detected by the company. The Department has not finished evaluating operator self-reporting of non-compliance. There is no assessment of whether self-reporting is leading to improved compliance with the *Timber Management Regulation*.

At the forestry offices, there is no formal process to document and track the resolution of public complaints on reforestation.

Implications and risks if recommendation not implemented

Without effective monitoring and enforcement processes, the Department has inadequate evidence that reforestation in Alberta is progressing as planned.

5.4 Forest Resource Improvement Association of Alberta

Recommendation No. 16

We recommend the Department of Sustainable Resource Development enter into a memorandum of understanding with the Forest Resource Improvement Association of Alberta to clarify the Department's accountability expectations.

Background

The Forest Resources Improvement Association has been delegated authority by the Department

The Forest Resource Improvement Association of Alberta has been delegated authority under the *Forest Resources Improvement Regulation*. Section 3 of this regulation defines the purposes of the Association, which are to establish programs or initiatives:

Key role is to enhance Alberta forests

- for the enhancement of the forest resources of Alberta
- to promote enhancement management of Alberta's forest resources
- to improve the sustained yield of Alberta's forest resources
- to promote integrated resource management
- for the reforestation of public land

The Association also undertakes reforestation of areas where the forestry operator elects to pay reforestation levy

The funding for these programs, other than the reforestation of public land, is primarily from timber dues paid to the Association by industry, as outlined in the *Forest Resources Improvement Regulation*. The Association administers these initiatives as part of its Forest Resource Improvement Program (FRIP). At March 31, 2006, the FRIP fund had a balance of $72 million.

The Association reforests areas that have been harvested by timber operators who harvest less than 10,000 cubic metres per year and pay the reforestation levy. The Association is responsible for setting the reforestation levy rates and collecting the fees.

The Association receives funding from the Department for specific reclamation programs, such as areas affected by wildfires.

The Association is held to the same reforestation standards as the forestry operators

The Association submits an annual reforestation plan to the Department. The Association is also required to complete ARIS data submissions to report the preceding timber year's activities by May 15. This data submission will cover all reforestation activity for cut blocks included in the reforestation plan. These requirements are part of the Department's process to hold the Association to the same reforestation standards as forest management agreement holders. We reviewed correspondence at one area office that provides evidence of these submissions and approvals.

Criteria: the standards we used for our audit

The Department should have systems in place to ensure that harvested lands for which the Forest Resource Improvement Association of Alberta is responsible are reforested in accordance with the regulatory standards.

Our audit findings

The Department does not have a memorandum of understanding with the Forest Resource Improvement Association. A memorandum of understanding would clarify the Department's expectations on roles, responsibilities, duties, accountability, policy direction, and performance.

The overall role and reporting requirements of the Association are described in the *Forest Resources Improvement Association Regulation*. However, further clarity is required, as indicated by the following problems:

- Unclear expectations—deficiencies in monitoring the Association's work need to be remedied. For example, the Department does not have a clear position on how to treat 49,900 harvested hectares transferred to the Association between 1995 and 2000. These harvested areas are scattered across the province and therefore are hard to manage. Many of these harvested areas do not meet the reforestation standards. The Department has not developed a strategy for determining how to treat these harvested areas and the cost of doing so.

Reporting requirements need to be established

- Inadequate reporting—forestry operators who harvest fewer than 10,000 cubic metres can choose to pay the reforestation levy to the Association. However, we did not find evidence of regular reports being sent to the Department advising the Department which forestry operators had elected to do their own reforestation activities rather than pay the levy. This reporting is important to the Department because it is then responsible for ensuring that the forestry operators who are reforesting submit annual operating plans and data on their reforestation activities.
- Inadequate monitoring—the Association signed a grant agreement for $35 million with the Department in December 1998 to reforest certain areas affected by forest fires. We found the following deficiencies:

Monitoring requirements need to be established

  - We reviewed the reports the Association provided to the Department to September 2005 on the reforestation status of areas affected by wildfires. The reports did not provide the Department with sufficient information to assess the extent of the reforestation that occurred on these areas. For example, a report included a summary of what was spent to date; however; it did not specify which areas had been reforested.
  - We could not find evidence that the Department conducted field monitoring to assess if the areas were being reforested. We also could not find evidence that the Department requested reports on the findings from any field inspections the Association performed.
- Unclear purpose—the Association administers the Forest Resource Improvement Program. The goals of this program include promoting enhanced management of Alberta's forest resources, improving the sustained yield of Alberta's forest resources and promoting integrated resource management. However, how this program integrates with the Department's forest goals and its development of standards is not clearly defined.

Implications and risks if recommendation not implemented

Without a clear understanding of the relationship between the Association and the Department, the Association may not fulfill its intended purpose as a delegated authority.

5.5 Seed inventory

Recommendation

We recommend that the Department of Sustainable Resource Development improve controls over the seed supply used for reforestation by:

- **strengthening processes to ensure that the integrity of the seed zone is maintained**
- **assessing whether seed is available to meet reforestation requirements.**

Background

The Department operates a seed centre for storing the seed that will be used for reforestation in Alberta. The seed is collected, sent to one of four processing facilities in Alberta, stored at the seed centre, and either provided to the contractor or sent to a nursery to be planted and grown into a seedling. Reforestation must occur with seeds that are from the seed zone where the trees were harvested.

The seed centre has a seed inventory database that it uses to record receipts and withdrawals of seed by forestry operator, and the seed registration number, which includes where the seed was collected.

Criteria: the standards we used for our audit

The Department should ensure its seed inventory is managed and maintained to support reforestation goals.

Our audit findings

Better systems are needed to ensure that there is enough of the right seed to reforest harvested areas

The Department does not have adequate systems to ensure that there is enough of the right type of seed to reforest harvested areas. We identified the following weaknesses:

- Information on seed inventory held at the seed centre is not used by the forestry officers to assess if seed supply is adequate. We obtained a list of the operators who had seed stored at the seed centre and compared it to our sample of forestry operators. We found that 5 of the 20 forestry operators who we sampled did not have seed stored at the seed centre.

- The Department does not have a process to ensure the integrity of the seed zone number is maintained once the seed leaves the seed centre. For example, the Department does not have information on how privately-owned nurseries ensure seed zone integrity.

Implications and risks if recommendation not implemented

Seed could be planted in the incorrect seed zone or may not be available for that zone.

Reforestation key terms

This glossary explains key terms and concepts.

Alberta Regeneration Information System (ARIS)

This is the information system used by the Department to track reforestation activities. Forestry operators are required to provide reforestation data to the Department by May 15th of the year following the reforestation activities. Forestry operators do not have access to ARIS. Forestry operators submit data to the Department and it is downloaded by the Department into ARIS.

Annual Allowable Cut (AAC)

Defined in the *Forests Act* as the total volume of timber that may be harvested in one year, or the total amount of forested land on which the timber may be harvested in one year. The Department measures the Annual Allowable Cut in terms of volume of timber (cubic metres) that can be harvested in one year.

Establishment Survey

Defined in the *Alberta Regeneration Survey Manual* as an independent survey performed on reforested areas. This survey is completed 4 to 8 years after harvesting in a coniferous, coniferous-deciduous or a deciduous-coniferous stand; and 3 to 5 years after harvesting in deciduous cutblocks. The establishment survey will show the stocking amount (percent), density (stems per hectare) and early growth of regenerated trees, as well as approximate locations of satisfactorily restocked and/or not satisfactorily restocked in areas larger than 4 hectares.

Forest Management Agreement (FMA)

The Minister of the Department, with approval of the Lieutenant Governor in Council, may enter into a forest management agreement with a person for the purposes of enabling them to enter on forest land for the purpose of establishing, growing and harvesting timber in a manner designed to provide perpetual sustained yield.

Forestry Operators

For the purposes of this audit, forestry operators are defined as any forestry company, individual operator or association who is required to reforest in Alberta. Forestry operators are:

- Forest Management Agreement holders
- Quota holders whose annual allowable cut is 10,000 cubic metres or more
- Quota holders whose annual allowable cut is less than 10,000 cubic metres and who have not elected to pay a reforestation levy
- Forest Resource Improvement Association of Alberta

Free to Grow standard

This standard provides criteria for determining tree height and the appropriate amount of competitive forest growth. Whether the free to grow standard is met is determined as part of performance survey results. If, for example, the competing vegetation is too close to the coniferous tree included in the survey sample, the performance survey result should be recorded as not sufficiently restocked.

Performance Survey

Defined in the *Alberta Regeneration Survey Manual* as an independent survey performed on reforested areas. This survey is completed 8 to 14 years after harvesting in a coniferous, coniferous-deciduous or a deciduous-coniferous stand; and 10 to 14 years after harvesting in conditionally stocked deciduous cutblocks or strata. The performance survey measures the same variables as the establishment survey but to different standards. In addition, the performance survey identifies coniferous crop trees deemed Free to Grow or else in need of stand cleaning.

Public lands

Defined as crown lands in Alberta

Reforestation

The *Timber Management Regulation* defines reforestation as "any operation involving seed management, seedling production, site preparation, tree planting, seeding, regeneration or reforestation surveying, stand cleaning, stand tending, stand thinning, tree improvement, fertilization, drainage, pruning or site analysis carried out in the course of forest renewal."

Regeneration Survey

There are two types of regeneration surveys as outlined in the 2003 Alberta Regeneration Survey Manual. These surveys are an establishment survey and a performance survey.

Strata

The Department has identified four classes or strata of trees:

- Deciduous—broadleaved tree species that lose there leaves in the fall.
- Coniferous—needle-leafed trees which produce cones
- mixed with deciduous as the primary species
- mixed with coniferous as the primary species

Regional Health Authority Global Funding

1. Summary

Global Funding allocates available funds

The Department of Health and Wellness funds the regional health authorities (RHAs) that provide health care services to Albertans. Since 1997–1998, the Department has used the Global Funding methodology to allocate operating funds to the RHAs. It is critical to understand that the Global Funding methodology is an allocation tool. Global Funding does not determine how much money is or should be available to the RHAs; it only distributes available operating funds according to a formula. At the heart of Global Funding is a population-based allocation model, supplemented by adjustments that address specific underlying conditions.

Global Funding is effective

Overall, Global Funding is an effective allocation methodology. Ideally, the Department would fund regions based on actual medical services delivered in each region and known costs for individual procedures. However, the health system does not produce the information required for the ideal funding calculation. In the absence of the ideal process, the population-based allocation model is a rational approach.

Three factors undermine support for Global Funding

However, three factors undermine stakeholders' support for the model. First, when regions and stakeholders complain about insufficient funding, Global Funding often becomes the target of criticism. However, Global Funding can only allocate what is available. Stakeholders have commented that it does not matter which system is used if there is not enough money being allocated. Second, any transparent and reproducible methodology will include compromises to ensure that regions are treated equitably and consistently. For example, the methodology calculates import-export adjustments at the average cost of the medical service. Importers' actual cost for the service is usually higher than the average and exporters' cost is usually lower. As a result, both importers and exporters believe that Global Funding has failed them. Third, the complexity of calculations and especially the existence of adjustments allow stakeholders to argue that certain regions enjoy an advantage or suffer a disadvantage. Our recommendations outline opportunities to control these concerns.

Objectives for funding and regular review not established

When the Department implemented Global Funding, it recognized the methodology would need ongoing refinement. However, elements essential to improving the methodology are missing. The Department should clearly articulate objectives for Global Funding. Without clear objectives, the Department is unable to define performance measures that would indicate whether the methodology is

succeeding. The Department initially envisioned a regular review but has never completed a comprehensive analysis.

Issues with adjustments should be addressed

The Department also believed it could eliminate adjustments from Global Funding. However, adjustments continue to be an important component of Global Funding. The Department needs to analyze and resolve issues that have arisen for at least six adjustments. The Department can improve its system to review and improve adjustments regularly.

Calculation of Global Funding is efficient and accurate

The Department has an efficient process to calculate the Global Funding allocations. Three departmental staff members do most of the work. They obtain detailed data about people, medical procedures, and health providers. Through numerous intermediate steps, they work with the data and calculate the funding allocations. They also publish an annual *Global Funding Manual* that informs stakeholders how the funding allocations were determined. The calculation of the allocations is accurate and adequately controlled.

Input data and coordination with capital funding can improve

The Department can improve the data used in Global Funding calculations and improve the timeliness of its funding communications to the regions. We first raised these issues in systems audits dating back to 1997–1998. In addition, the Department needs to ensure that the capital and operating funding decisions for the regions are coordinated.

Addressing the regions' concerns with Global Funding

We surveyed the regional health authorities for their views on Global Funding. Overall, the urban RHAs seem more satisfied with the Global Funding methodology than rural regions. This may be because urban RHAs can afford to hire employees with specific funding expertise. Understanding the funding system gives those RHAs a comfort level and a capacity to work with the system. The Department can improve its system to address and conclude on RHAs concerns with the methodology.

2. Audit scope and objectives

Our work focused on Global Funding, which makes up the majority of operational funding to the RHAs (see table on page 135). Our work did not include an examination of the systems that support Province-wide Services and Non-base funding. Funding to the Alberta Cancer Board and the Alberta Mental Health Board was also not included in our examination.

The Global Funding system we examined allocates an established pool of funds to the RHAs. We did not examine the system used to determine the amount of funds in the pool.

In addition to our audit activity in the Department, our work included a survey of and discussions with management of the RHAs to get their views on how well global funding is working.

The objective of this audit was to determine if the Department of Health and Wellness has an adequate system to allocate funding to the RHAs. If weaknesses or opportunities to enhance the system existed, we provided recommendations to improve the system.

3. Background (Global Funding Methodology)

The Department of Health and Wellness is the main source of funding for regional health authorities.

Global Funding provides 81% of operational funding

The Department provides three types of operational funding to the RHAs: Global Funding, province-wide services, and non-base funding. Global Funding accounts for $4.3 billion or 81% of the total funding provided to the regions by the Department. Global Funding is comprised of population formula funding and non-formula funding.

Population formula allocates 89% of Global Funding

As shown in Table 1, 89% or $3.8 billion of the Global Funding is allocated using the population formula. The population formula is a mathematical model that allocates available funds.

Table 1

2004–2005 Department of Health and Wellness Funding to Regional Health Authorities		
Global Funding: • Population formula funding	$3.8 billion	89% of total Global Funding
• Non-formula funding	$485 million	11% of total Global Funding
Total Global Funding	**$4.3 billion**	**81%**
Province-wide services funding	$455 million	9%
Non-base funding	$545 million	10%
Total Funding:	**$5.3 billion**	**100%**

Suggested objectives for population funding

In the course of our audit, departmental and RHA management and staff gave us their views of the objectives for population formula funding:

- An equitable distribution of available funds
- A predictable base of funds
- Transparency in the system
- "An incentive for regional health authorities to seek equally effective but less costly methods of delivering services in order to free up funds for use in meeting other health needs."[1]

Actual expense and population data needed for the calculation

Population formula funding is based on historical health care expenses, population size, and population mix within regions and the province as a whole. Population mix includes the age, gender and socio-economic status of each individual in the province. The Health Funding and Economics (HF&E) unit at the Department collects the required historical data on expenses, population size, and mix. The regions themselves are the main source for this historical data.

Available funds divided amongst 6 activity sectors

The Department allocates the total available formula funding into six activity sectors using historical health care expenditure data, as shown in Table 2. The historical data comes from 2002–2003. The percentages result from an analysis of where health funds were spent in 2002–2003. These percentages are used to allocate the $3,818 million total funding for 2004–2005 into activity sectors.

Table 2[2]

2004–2005 Funding Pool Sizes by Activity Sector			
Activity Sector	**% in 2002-03**	**$3,818 million to be allocated for 2004-05**	**$ in millions**
Acute Hospital Inpatient Care	40.5		1,547.4
Hospital Based Ambulatory Care	25.1		958.7
Continuing Care	18.6		708.7
Home Care	8.3		315.6
Protection, Prevention, and Promotion (PPP)	3.9		150.3
Community Lab	3.6		137.3
Total Funding	**100**		**3,818.0**

[1] Population-based Funding Implementation Committee, "Annual Report on Implementation of Population-Based Funding for Regional Health Authorities", December 1997, p. 2.

[2] Alberta Health and Wellness, *Regional Health Authority Global Funding Manual, 2004-05*, p. 9. Website: http://www.health.gov.ab.ca/regions/pdf/RHAFund04.pdf. The manual contains a wealth of technical information about Global Funding.

Spending does not have to follow funding allocations

The regions are not required to spend the funds in the same proportions as the funds are allocated to each activity sector. For example, a region is not required to spend 40.5% of their formula funding on acute hospital inpatient care. The methodology uses these six activity sectors because each sector's expenditure pattern (especially by age of health care recipient) is different. If only one activity sector were used, it would skew the allocation process.

Funding rate calculated for each of 124 categories

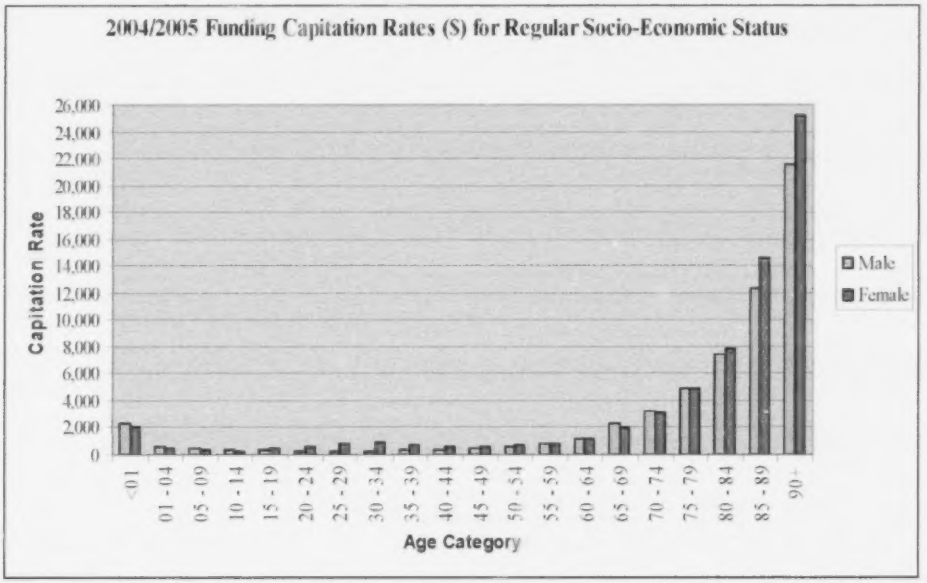
HF&E obtains detailed historical data for each of the six activity sectors to determine the relative cost weight of an individual in a specific category. There are 124 categories based on a matrix of age, gender and socio-economic status[3]. Using the relative cost weights and the dollar pool size in table 2, HF&E determines a funding rate for each category of individual for each activity sector. Then within each category, the rates for all six activity sectors are added to obtain the overall funding rate for that category of individual. The overall rate is the average provincial funding per person in that age, gender and socio-economic category. This overall category funding rate is multiplied by a region's projected population for each category.

Pattern of funding by age category

Chart 1 graphs the overall funding rates for females and males in the 20 age categories with a regular socio-economic status. The chart demonstrates the funding life cycle: newborns often require health care services; health costs decrease then remain stable until individuals reach 65; women in their childbearing years require more services; the elderly require significantly more care. The same pattern holds true for individuals in the premium support, aboriginal and welfare socio-economic groups, except that funding rates are higher than the regular socio-economic group.

[3] Socio-economic statuses used are regular, premium support, aboriginal and welfare.

Chart 1



Three criteria for data collection

To calculate population funding rates and import/export adjustments, HF&E must satisfy three criteria in their data collection for each activity sector. They must identify:

- To whom the health service was rendered.
- By whom the health service was rendered.
- The cost or weighting of the health service rendered.

This indicates the level of detail required to calculate population-based funding and related adjustments.

Data comes from existing sources or HF&E collects it

To collect the data that satisfies these three criteria, HF&E uses two methods. For data already collected for other purposes, HF&E will obtain and use that existing data. Existing data comes from either the regions or the Canadian Institute for Health Information. However, if the data does not already exist, HF&E will physically collect the data themselves.

11% of Global Funding allocated by adjustments

As indicated in Table 1 above, the Department allocates the remaining 11% or $485 million of Global Funding to the regions through non-formula adjustments. Non-formula adjustments address issues such as:

- Insufficient data on an activity sector for a proper population formula allocation
- Geographical variances in health care need beyond that determined from differences in demographic composition

- Variances in regional health authority unit costs because the population formula provides the same provincial average per capita funding rate to each region
- Desired targeted funding.

14 non-formula adjustments in 2004-2005

Non-formula adjustments can either allocate available funding to regions or re-allocate funding between regions. In 2004–2005, there were twelve non-formula funding adjustments[4] that allocated funding; HF&E makes these allocations from available funds before applying the population formula. There were two non-formula funding adjustments[5] that re-allocated the funding between regions after the population formula had been calculated.

CIHI comment about Global Funding

Observations —Alberta's Global Funding methodology has received significant attention from the health care community. The Canadian Institute for Health Information made the following comment in its 2001 report on the "Funding of Acute Care in Canada":

Alberta's combination of a population-based method with service recipient costing information creates a funding approach that is objective, data rich, consistent in application, and comprehensive in outlook.

Global Funding is efficient and reproducible

Global Funding is economical to administer. The methodology requires a core of three full-time staff in the Department's Health Funding and Economics unit to collect data and prepare the calculations. By comparison, funding processes in other provinces can require dozens of full-time staff to analyze and verify individual regional funding proposals on a case-by-case basis. The Alberta funding model avoids this level of preparation and analysis and eliminates subjective judgments. In addition, an independent party with access to the data can replicate the Alberta funding model.

Regions have concerns about amount of funding to be allocated

We surveyed the CEOs, SFOs, and Board Chairs of each regional health authority. We collected their views on global funding data, the Department's systems and processes, and changes they felt were required in the system. Broadly speaking, the urban regions are satisfied with the population formula funding model, while some rural regions are not. Rural regions frequently cited that "with the population formula funding model, Alberta does not have a funding model, they have an allocation model; it is an attempt to equitably allocate an insufficient pie." The population funding formula does not determine total funding for the health

[4] These include the Cost Adjustment Factor, Acute Care Coverage, Diagnostic Imaging Adjustment, Alternate Payment Plan, Rural Dialysis, Western Canada Children's Health Network, Resident Services Allowance, Academic Health Centres, Mental Health Transfer, Regional Shared Health Information Program, Offset of Acquired Deficits, and Continuing Care Information System. We discuss non-formula adjustments on pages 149 to153.

[5] These include the Minimum Guarantee and Import/Export Adjustments. We discuss both of these adjustments on pages 151 and 152.

system and the regions. Each year a Global Funding pool is determined, and this pool is then allocated to each region using the funding formula. The Global Funding pool increases each year but many regions believe that these increases do not correspond with the increase in their health care service delivery costs. As a result, many regions take a pessimistic view of the allocation methodology.

A provincial health plan would support Global Funding methodology

Most regional executives also commented on the lack of defined expectations for health care service delivery in the province. RHAs cited the lack of a provincial health plan as a barrier to the alignment of the RHAs and the Minister's priorities and expectations. Without clearly communicated expectations, regions are uncertain which level of care should be targeted and therefore what funding is required. Although health care planning is outside the scope of this audit, funding is not the only business impacted by the absence of a provincial health plan. Lack of a provincial health plan makes it difficult for individual regions to rationalize which health care services should be provided. As well, we commented on the lack of a health plan when we recommended improving the accountability of the RHAs to the Minister in our 2003–2004 *Annual Report* (Recommendation No. 23).

Rural RHAs feel their needs not met by the methodology

Two-thirds of Albertans reside in urban centers, so urban centers are the primary driver of provincial funding rates. Executives often commented that the population formula funding do not represent the health care cost and service profiles experienced by the rural RHAs. Issues such as distance and remoteness challenge the rural RHAs, resulting in higher health care service delivery costs. This makes it difficult for the rural RHAs to provide equivalent health services with the same funding rates that urban RHAs receive. While Global Funding adjusts for rural factors, rural RHAs feel it has not adequately addressed their interests.

Adjustments are a permanent feature of Global Funding

The Department introduced population formula funding in 1996–1997. At that time, participants expected that funding adjustments would be a temporary solution to data and methodology issues. However, funding on a provincial average (which is essentially what the methodology accomplishes) does not fairly address all health care situations. As a result, funding adjustments have become a permanent, although ever-changing, feature of Global Funding. Regions and the Department continually analyze funding issues and as a result introduce new adjustments. Over time, the population formula may also be amended so what was once an adjustment can be incorporated into formula funding. We mention this to illustrate why Global Funding has never been and may never be a static process.

4. Conclusions

10 audit criteria used in this audit

We developed and agreed with management ten audit criteria. We use these criteria to assess the Global Funding methodology used by the Department of Health and Wellness to allocate funds to the regions. We concluded that the Department met three criteria, partially met six, and did not meet one.

	Criteria	Conclusion			Related Numbered Recommendations
		Met	Partially Met	Not Met	
1.	Alberta Health and Wellness should define[6] the Regional Health Authority Global Funding approach.		✔		17
2.	The approach should be consistent with the strategic initiatives of Alberta Health and Wellness and the Government of Alberta.	✔			
3.	The approach and its implementation should be consistent with other Regional Health Authority funding sources.		✔		21
4.	Alberta Health and Wellness' operational systems and documentation should be consistent with the approach.		✔		18
5.	Alberta Health and Wellness should regularly monitor, analyze and enhance its operational systems.	✔			
6.	Systems data should be complete, accurate and timely.		✔		19
7.	Applications and data should be adequately controlled, protected, and operated.	✔			
8.	Systems data and information should be available to stakeholders.		✔		
9.	Regional health authority funding information and funds should be delivered on a timely basis.		✔		20
10.	Alberta Health and Wellness should assess whether the allocation methodology meets the goals of its approach.			✔	17, 18, 20

[6] By "define", we do not mean "explain how it works". We mean define the goals of Global funding and how the Department determines that those goals are being met.

The Department successfully met the following three criteria.

Global Funding is consistent with planning initiatives

Criterion 2—Global Funding is consistent with the strategic initiatives of Alberta Health and Wellness and the Government of Alberta. We confirmed that Global Funding is consistent with the Ministry of Health and Wellness' Business Plan and the strategies listed for 2004–2005. We also reviewed plans for health-related cross-government initiatives and found no inconsistency between the funding model and the intentions of those initiatives.

Department regularly improves its methodology

Criterion 5—the Department regularly monitors, analyzes and enhances its Global Funding operational systems[7]. For example, the Health Funding and Economics (HF&E) unit reviews other jurisdictions' funding methodologies and obtains input from the regions through its Methodology Working Group. HF&E has enhanced its systems annually. Recently HR&E improved its data collection processes for long term care recipients around the province.

Systems are adequately controlled

Criterion 7—the computer applications and data that HF&E uses to calculate Global Funding are adequately controlled, protected, and operated. Because HF&E is a small unit, controls over access to programs and data are simple but effective. Logical access to the network drive on which the programs and data reside is restricted. Manual and automated controls ensure that the computer applications process data completely. Our own recalculation of Global Funding shows that HF&E's programs operate as intended.

The Department partially met the following six criteria.

Goals for Global Funding not clearly established

Criterion 1—the Department needs to define its Global Funding approach. HF&E provides aspects of a definition in its annual *Methodology and Funding Manual*. Less formally, HF&E discusses the approach in its Methodology Working Group. However, the Department has not formally outlined its goals for Global Funding for many years. We found that Departmental and regional health personnel had differing views of the goals of Global Funding. As well, we did not find that the Department had defined performance measures by which to judge progress against its Global Funding goals.

[7] By operational systems, we mean the tools that HF&E uses to collect data and calculate results. These computerized and manual systems are the nuts and bolts operations of Global Funding.

Global Funding not coordinated with capital funding initiatives

Criterion 3—the Global Funding approach should be consistent with other regional health authority funding sources. Global Funding is integrated with the Department's province wide services and non-base funding. For example, we tested that no procedure designated as a province wide service is also included in Global Funding calculations. However, Alberta Health and Wellness along with the Department of Infrastructure and Transportation provide capital funding to the regions. Funding of additional operational costs due to capital expansion is not considered in either the capital funding or the Global Funding methodology. As a result, the Department does not coordinate the impact of capital expansions with expected operational requirements within the Global Funding methodology.

Some adjustments not consistent with intentions of Global Funding

Criterion 4—HF&E's operational systems and documentation should be consistent with the approach. Given our understanding of the goals of Global Funding, we replicated the Global Funding systems to understand how they work. We concluded that the population formula is consistent with the approach, although some non-formula funding adjustments are inconsistent with the goals of Global Funding. Generally, the annual *Methodology and Funding Manual* successfully documents HF&E's operational systems. HF&E can improve the documentation for variables incorporated in the cost adjustment factor. Support was not readily available for some adjustments.

Some source data can be more accurate or timely

Criterion 6—to produce consistent, reliable results, systems data should be complete, accurate and timely. The Department has defined the data requirements for Global Funding and maintains systems to acquire the data. We reviewed how Departmental staff have validated data acquisition in areas such as inpatient care by re-abstraction surveys. However, the Department can still improve data accuracy, completeness, and timeliness for a variety of Global Funding inputs. For example, home care data actually became less reliable in 2003–2004 because of the RHA boundary changes and the amalgamation of data from different systems.

Data should be more available for stakeholders

Criterion 8—systems data and information should be available to stakeholders so that regions can plan their initiatives and confirm the calculation of their Global Funding. HF&E's data sharing with stakeholders incorporates appropriate safeguards such as password-controlled files and scrambled personal health numbers. Our survey of regional executives indicated two issues: responses by the Department are not timely and Freedom of Information and Privacy concerns often restrict data sharing. For data that it controls itself, HF&E responds in a reasonable amount of time. However, most of the data used in Global Funding resides on the Department's data repository. HF&E cannot action requests for this data; requests go through a Departmental process. Because the process to finalize data on the repository can be lengthy, it can take up to two years to respond to a regional request.

Informing RHAs of their allocations can be prompter

Criterion 9—to permit regions to budget for the next fiscal year, funding information should be delivered on a timely basis. HF&E completes its calculations in November or December of each year. Funding allocation decisions are typically communicated to the regions in late March or April of the next year. In this way, the Department respects the government's budgeting process. However, the regions are required to prepare and submit a preliminary budget to the Department by late October and a final budget by March 31st, which is before communication of the allocation decisions. The Department transfers these operating funds to the regions on a timely basis.

The Department did not meet the following criterion.

Department has not assessed Global Funding against goals

Criterion 10—the Department should assess whether the allocation methodology is meeting the goals and objectives of its approach. Since 1996–1997, consultants and the predecessor of the Methodology Working Group have reviewed aspects of Global Funding. However, two issues lead us to conclude that the criterion is not met. First, none of the work to date assesses progress towards the goals and objectives of the approach; as we mentioned earlier, these goals and objectives need to be better defined. Second, the Department has not performed a comprehensive assessment.

Following up prior years' recommendations

We previously recommended analysis of utilization in the RHAs

In addition, we followed up the Department's response to our prior years' recommendations on Global Funding. In 1997–1998, we recommended that the Department analyze reasons for utilization and cost differences between regions. When we followed up that recommendation in 1999–2000, we amended the wording to recommend that the Department "examine regional differences in utilization and costs of health services with a view to improving the system for allocating funds to health authorities".

HF&E analyzed utilization and made some adjustment

We found that HF&E has analyzed the underlying reasons for utilization and cost differences between regions for inpatient activity, and attempts to account for those structural differences with a cost adjustment factor. For example, the cost adjustment factor adjusts for rural areas where patients tend to be kept overnight due to traveling time. The cost adjustment factor also accounts for the higher costs of large hospitals. We discuss the cost adjustment factor further in Recommendation No. 18. The Department also compares provincial average utilization with community utilization on a request basis.

But utilization is not a driver for Global Funding

However, this type of analysis has not been a driver in amending the Global Funding calculations. Global Funding allocates funds based on averages. Generally, each RHA gets the same funding for the same service. If Global Funding were to recognize "regional differences in utilization and costs of health services" in its allocation, it would violate the basic principle of equitable treatment. Through adjustments, Global Funding can accommodate underlying structural issues as we discussed in the previous paragraph.

Utilization recommendation has been addressed

However, utilization and costs vary for many reasons and not all should result in a funding allocation adjustment. As a result, we conclude that the 1999–2000 recommendation has been addressed, bearing in mind that further study of underlying issues can lead to new adjustments.

We previously recommended improvements in data

The 1997–1998 audit also made four recommendations on operational issues. The first recommended improved quality and timeliness of information feeding into the Global Funding model. In some cases, data quality or reliability is improving. For example, the Department completed an inpatient re-abstraction study in 2004. This project examined how hospitals coded 1,100 inpatient records and determined that the information was substantially complete and accurate. The Department also planned to complete an outpatient re-abstraction study.

Enhancing data and information systems is expensive

There are two provisos related to data quality. First, designing and implementing information systems in hospitals and treatment centers is expensive. With budget constraints and treatment issues in each RHA, investments in information systems take second place to operational concerns. Second, it is difficult to justify investments in information systems based on improved funding allocations. Sensitivity analysis that we performed during our audit confirmed that the potential impact of data weaknesses is not significant to Global Funding as a whole. So practically speaking, improvement in data for Global Funding purposes is a slow process.

Unsatisfactory progress on data improvement

Even with these provisos, we conclude that unsatisfactory progress was made to improve data quality. Some key information such as home care data has actually become less reliable. Other data has not improved. See Recommendation No. 19.

Consistency and predictability improve but timing of communication still an issue

The second recommendation addressed the consistency and predictability of the funding formula. The funding methodology is now well established and the Department documents its processes in the *Regional Health Authority Global Funding Methodology and Funding Manual*. However, we believe this issue still persists related to the timing of the communication of expected funding—see Recommendation No. 20.

No-loss provision evolves to minimum guarantee

The third recommendation addressed the no-loss provision. The Department eventually phased out the no-loss provision but replaced it with the minimum guarantee adjustment. The rationale behind both the no-loss provision and the minimum guarantee adjustment violate the principles of Global Funding. Both adjustments guarantee funding stability even though the population formula calculates lower funding for the region. As a result, we repeat this 1997–1998 concern in our Recommendation No. 18.

Forecasting recommendation successfully addressed

The fourth recommendation addressed the forecasting of funding requirements. We conclude that this recommendation has been successfully implemented. The Global Funding formula now forecasts population sizes in regions by projecting the growth trend of the previous two years.

5. Our audit findings and recommendations

5.1 Defining goals and performance measures

Recommendation No. 17

We recommend that the Department of Health and Wellness clarify the goals and performances measures for its Regional Health Authority Global Funding methodology.

Background

Early objectives of fairness and incentives

In 1997–1998, the Department implemented the Global Funding methodology "to ensure each health region in the province receives its fair share of the available health dollars, and is provided with the best incentives to provide the optimal mix of services."[8]

An early committee adds predictability

The Population-based Funding Implementation Committee, established in 1997, defined the objectives of the Global Funding methodology as "the fair and equitable distribution of available funds, a predictable basis of funds for all regional health authorities, and a built in incentive for regional health authorities to seek equally effective but less costly methods of delivering services so they can free up funds for us in meeting other health needs".[9]

"Equity" as an objective

The 2004–2005 *Regional Health Authority Global Funding Methodology and Funding Manual* also states that the objective is equity.

Reasons for performance measures

Performance measures assess progress towards stated goals. Performance measurement shifts the focus from resources allocated to the results achieved with those resources. Performance measures serve as a communication, motivational, management oversight and decision-making tool.

[8] Alberta Health and Wellness, op. cit., p. 4
[9] Population-based Funding Implementation Committee, op. cit., p. 2

Criteria: the standards we used for our audit

The Department of Health and Wellness should define the goals and performance measures of the Global Funding methodology.

Our audit findings

No goals or performance measures for Global Funding

We found no current, formal documentation or communication of the goals and performance measures of the Global Funding methodology. As a result, different stakeholders hold different views of the objectives of Global Funding.

Department staff hold differing views on objectives

In our discussions with management at the RHAs and at the Department, we heard different views of the Global Funding methodology objectives and their priorities. Many cited the objectives listed by the Population-based Funding Implementation Committee, with the exception of a predictable base. Management at the Department also included the objective of transparency.

Objectives for adjustments should be established

In particular, stakeholders did not distinguish the objectives of the population formula model from those of the non-formula adjustments. If the population formula allocates a base amount, then adjustments should only apply in specific circumstances. The Department has not documented how or whether temporary (as opposed to underlying structural) differences in the cost of delivering medical services should be addressed through Global Funding. As adjustments generate the majority of concerns about Global Funding, the Department should define their scope and purpose.

Department should establish performance measures

The Department has not established performance measures to gauge its success in achieving the goals of Global Funding. Performance measures could include surveying regions to determine whether stakeholders are satisfied or whether the Global Funding methodology is transparent.

Implications and risks if recommendation not implemented

Without defined goals and performance measures, the Department cannot determine whether its Global Funding methodology is an appropriate system on which to base funding allocations. Goals and performance measures help to communicate the purpose and expectations of Global Funding to regions and stakeholders.

5.2 Periodic analysis

Recommendation

We recommend that the Department of Health and Wellness periodically assess whether the Global Funding methodology meets its goals.

Background

An early committee set up to support Global Funding

Alberta was the second province in Canada to implement a population formula funding model for health care services. Shortly after implementation, the Department established a Population-based Funding Implementation Committee to assist in addressing issues and anomalies as it implemented the funding framework. Representatives from the Department and some of the RHAs comprised the committee.

Committee disbanded; Working Group now carries on

The Department and RHAs expected the Committee to report regularly on their work. The Committee published their first report in December 1997, highlighting operational issues of the day. The committee prepared two reports in total and then disbanded in the late 1990s. The Funding Methodology Working Group now carries on many of the same activities of the committee.

Occasional ad hoc reports prepared

From time to time, consultants have prepared ad hoc reports to examine aspects of Global Funding. For example in June 2001, Cap Gemini produced an independent report titled "Funding Methods of Regional Health Services in Alberta". In October 2002, Deloitte & Touche reviewed Global Funding as it applied to the Lakeland Regional Health Authority for the period 1997–1998 to 2002–2003.

Criteria: the standards we used for our audit

The Department of Health and Wellness should assess whether the allocation methodology meets the goals of its Global Funding approach.

Our audit findings

Department does not assess Global Funding periodically

The Department does not periodically assess whether the Global Funding methodology is the appropriate funding model for Alberta. As a result, stakeholders' concerns about funding have not been publicly documented and analyzed, and options considered. This includes the option of pursuing different funding models for the province.

Committees past and present do not have the mandate

The Population-based Funding Implementation Committee was established to determine whether the model implemented was working as it should. However, it did not assess the appropriateness of the population formula model or the success of its implementation in Alberta. Similarly, the Funding Methodology Working Group's mandate and membership do not allow it to perform the analysis considered by this recommendation.

Ad hoc reports were not comprehensive

The ad hoc reports we mentioned earlier looked at operational considerations. The Cap Gemini report identified concerns with the funding framework and explored options to address those concerns. The report focused on specific mechanisms to allocate funding. The study by Deloitte & Touche in 2002 only determined whether the Department applied the model consistently in the case of the Lakeland Health Authority. Neither study assessed the appropriateness of the methodology.

Implications and risks if recommendation not implemented

A periodic assessment would determine whether the Global Funding methodology is appropriate and meeting its goals. The assessment would contribute to improving the system and help the Department communicate its position on operational funding to the regions.

5.3 Non-formula funding adjustments

Recommendation No. 18

We recommend that the Department of Health and Wellness analyze the non-formula funding adjustments to ensure their consistency with the goals of Global Funding. Issues arising from this analysis should be resolved.

Criteria: the standards we used for our audit

The Department of Health and Wellness should ensure non-formula funding adjustments are consistent with the goals of the Global Funding methodology.

Background and our audit findings

Reasons for adjustments

For the 2004–2005 funding year, Global Funding included twelve non-formula funding adjustments to the initial funding allocation. These adjustments address:

- Insufficient data on an activity sector for a proper population formula allocation
- Geographical variances in health care needs beyond that determined from differences in demographic composition
- Variances in regional health authority unit costs because the population formula provides the same provincial average per capita funding rate to each region
- Desired targeted funding such as for the regional shared health information program, offsetting acquired deficits and for the continuing care information system project.

Adjustments generate most concern amongst RHAs

The Department does not regularly analyze the adjustments in terms of their consistency with the objectives of the Global Funding methodology. Adjustments represent 11% of total Global Funding but our survey of regional health authority management indicates they generate most of the concerns about Global Funding. Some regions believe the Department is maintaining unsupportable adjustments in order to compensate for inherent weaknesses in the Global Funding methodology.

CAF applies to acute hospital inpatient care

Cost adjustment factor—the largest non-formula funding adjustment is the cost adjustment factor (CAF) at $101 million. The cost adjustment factor compensates for factors outside of a region's control that result in above-average service delivery costs. In 2004–2005, the cost adjustment factor applied to acute hospital inpatient care. The Department has indicated that it plans to apply the cost adjustment factor to hospital-based ambulatory care in the near future.

Inpatient CAF is discounted due to concerns about data

The CAF consists of separate adjustments for inpatient and non-inpatient services. For inpatient services, the cost adjustment factor is based on a statistical measurement of regional cost variations per unit of output. For 2004–2005, three regions—Calgary, Capital, Northern Lights—had unit costs above the provincial average. The methodology discounts the inpatient cost adjustment factor by 50% due to concerns about the precision of the cost variation calculations. Discounting raises concerns about the accuracy of data used in the calculation and the soundness of the underlying methodology.

For non-inpatient services, the CAF is based on methodologies called the Cost of Doing Business and Assured Access.

CAF is complicated; Department should document support for its methodology

The CAF is complicated and as a result lacks transparency. We found that only one departmental staff member fully understood the calculations. We also found that minimal documentation was available to describe the process in arriving at the allocation decisions. For instance, we found no supporting documentation for the analysis of the cost of doing business or assured access aspects of the cost adjustment factor.

Justification for setting negative adjustments to zero not documented

The cost adjustment factor treats negative adjustments differently compared to the import/export or minimum guarantee adjustments. Generally, adjustments involve the addition or subtraction of funding provided to the regions. Negative adjustments (i.e., where a region's average costs are below the provincial average) indicate the region has been over-funded. However, the cost adjustment factor deems negative adjustments to be zero, resulting in no reduction of funding. Some of the cost adjustment factor cases are significant. For instance, one RHAs negative adjustment amounted to $13 million, but it received no reduction in funding. The Health Funding and Economics unit (HF&E) has not documented a rationale for setting the negative adjustments to zero. This compromises the equity objective of the Global Funding methodology.

Rationale for important CAF decisions not disclosed

HF&E has not disclosed the justifiable cost differences or the magnitude of the related adjusting impact for inpatient services. The most significant cost variation related to the "intensity of service" or "size" of larger hospitals. HF&E has not justified why regions with larger hospitals should receive more funding nor disclosed the cost impact related to the size of a hospital. HF&E should document its rationale why urban centers should be entitled to more funding than rural

centers due to the size of their hospitals. The rationale should also describe the magnitude of the factors going into these adjustments.

HF&E should clarify adjustments for the urban regions

The two urban regions, Calgary and Capital, had a cost index above the provincial average. This is largely due to the higher costs from their large teaching hospitals. As a result, these regions receive a higher cost adjustment. However, both the Calgary and Capital Health regions receive separate adjustments, Resident Services Allowance and Academic Health Centers, to remunerate direct costs for medical residents and academic physicians. This suggests to stakeholders that the urban regions may be funded twice for teaching costs. HF&E should clarify and document this issue.

Unsatisfactory progress on a previous recommendation

Minimum guarantee adjustment—in our *1997–1998 Annual Report*, we recommended that the Department of Health and Wellness review the continuing application of the no-loss provision, now known as the minimum guarantee adjustment. The Department has not made satisfactory progress on this recommendation.

No-loss provision becomes the minimum guarantee

The original no-loss provision assisted regions in the transition to Global Funding in 1997–1998. The current minimum guarantee adjustment ensures each region a minimum funding increase each year based on their previous year's comparable funding. In 2004–2005, the minimum guarantee was 4%. The guarantee generated positive minimum guarantee adjustments or funding top-ups for four regions. The adjustment re-distributed funds on a proportional basis from the five regions that had negative minimum guarantee adjustments. In 2004–2005, the re-distribution totalled $20.4 million.

Minimum guarantee violates principles of Global Funding

With the minimum guarantee adjustment, a region is entitled to receive continual funding increases even when its population or its funding requirements, as calculated by the Global Funding methodology, have declined. This result compromises the equity objective of the Global Funding methodology. This adjustment also reduces the incentive for regions to improve their cost-effectiveness.

Alternate payment plan—the Alternate Payment Plan provided extra funding for six of nine regions. In 2004–2005, the funding provided for the Alternate Payment plan was $11.6 million.

Purpose for Alternate Payments has now ended

The Alternate Payment Plan reimburses health authorities for contracts that the Department had with individual physicians before the implementation of Global Funding. The compensation continues even though the contracts have ended. HF&E calculated the annual adjustment based on the original historical cost of service. All regions must pay for these services from their Global Funding although only six receive this historically based adjustment.

Purpose of this adjustment

Acute care coverage—in 2004–2005, seven regions with larger hospitals received $15 million to address patient coverage needs in acute care hospitals. "Funding can be used for expansion of existing programs and/or establishment of

new programs and services involving physicians, nurses, clinical assistants, medical residents and/or nurse practitioners."[10]

This purpose overlaps cost adjustment factor's purpose

We found that the adjustment for acute care coverage has the same purpose as the cost adjustment factor. The rationale for the Acute Care Coverage adjustment is not clearly defined, resulting in at least the perception of double funding.

Import-export activities cost $346 million in Alberta

Import-export funding adjustment—import-export funding adjustments compensate for health services provided to individuals outside of their home region. Import-export activity accounts for about nine percent of total health care activity in the province. In 2004–2005, the total valuation of the import-export funding adjustment was $346 million.

Importing RHA receives the funding that the exporting RHA gives up

HF&E calculates import-export funding adjustments for each activity sector in the population formula funding. The value of each identified import-export activity is assigned to the RHA where the service is provided (import), and deducted from the region where the patient comes from (export). The net impact for the import-export funding adjustment for the entire province is zero as money comes from one authority and goes to another.

Both importers and exporters feel the amounts are inequitable

Generally, neither importers nor exporters are satisfied with the adjusting policy based on provincial averages. The importers are generally the two urban regions whose costs are higher than the provincial average. They argue that the import adjustment does not fully reimburse them for their services. The exporters are the rural regions whose costs are generally below the provincial average. From their point of view, they pay more than the procedure would cost in their own region. As long as only the importer and exporter are involved in the adjusting formula, the sense of inequity with import/export will continue.

Import-export amounts for continuing care need to be updated

The import-export funding calculation for continuing care is not consistent with the calculation for other activity sectors. For other activity sectors, HF&E uses the provincial average funding rate for the service in question. For continuing care, HF&E uses relative cost weights determined several years ago. These costs establish the proportion of costs for dependent versus independent patients in continuing care but are otherwise out of date. We found that using relative cost weights resulted in a 34% decrease in the import-export calculation.

Transfer of $231 million to RHAs

Mental health transfer—in 2004–2005, the Global Funding methodology allocated $231 million to RHAs for mental health funding. RHAs receive this funding to cover selected community and facility mental health services divested from the Alberta Mental Health Board to the RHAs in April 2003.

[10] Alberta Health and Wellness, op. cit., p. 18

Mental Health Transfer is not population-based

The basis for allocating the mental health funding to the RHAs is inconsistent with the population-based methodology. Since 2003–2004, HF&E has allocated mental health funding based on the initial historical transfer amount adjusted for overall Global Funding growth rather than on population demographic profiles. The Department has indicated that they have plans to revise the basis of allocation to be more consistent with the Global Funding methodology.

Implications and risks if recommendation not implemented

Unless adjustments are handled consistently and in accordance with Global Funding goals, stakeholders may conclude there are inequities in the allocation process. Where inequities or inconsistencies exist, HF&E should resolve them promptly to avoid complaints of inequity. Without full disclosure of the rationale for adjustments, the factors influencing the adjustments, and the magnitude of their impact, stakeholders may view the system and its results with skepticism.

5.4 Data improvement

Recommendation No. 19

We again recommend that the Department of Health and Wellness continue to improve the data used in the Regional Health Authority Global Funding calculations.

Background

Our previous recommendation

In our *1997–1998 Annual Report,* we recommended that the Department of Health and Wellness improve the quality and timeliness of the information used in the population-based funding formula.

MIS provides historical spending information

Activity sector funding pool sizes are determined by the total available funding for Global Funding and the historical expenditure distribution across activity sectors. The historical expenditure distribution across activity sectors is based on regional spending patterns as determined by Management Information System (MIS) data.

Resident Classification System gives proportionate costs for continuing care

HF&E relies on the Resident Classification System for its continuing care activity data. HF&E assesses all continuing care or supportive living residents in the province against eight indicators. The system then assigns each resident to one of seven classification categories called the A to G scale. The A to G scale, although expressed in dollars, really represents the acuity level of the patient and therefore the relative resources needed to care for each resident.

Home Care Information System

HF&E obtains its home care activity data from the Home Care Information System. The regions are required to report monthly home care data using pre-defined data elements. The data is client specific and includes demographic, client classification and service information.

3 age categories used for Protection, Prevention, and Promotion

Protection, Prevention and Promotion (PPP) funding pool covers health protection and community health services. The PPP funding pool is split into three broad age group categories and weighting schemes are determined for each socio-economic status. Each region's share of the provincial weighted population determines its PPP funding allocation.

Criteria: the standards we used for our audit

The Department of Health and Wellness should ensure that the data used in the Global Funding calculations is complete, accurate and timely.

Our audit findings

Unsatisfactory progress on previous recommendation

The Department has made unsatisfactory progress on our *1997–1998 Annual Report* recommendation. We found a number of instances where the data used in the Global Funding calculations was not complete, accurate or timely.

MIS data has not been updated; impact on pool sizes is small

The MIS data used in calculating funding pool sizes for data weighting purposes has not been updated since the 2003–2004 funding year. The redistribution of regional health authorities caused issues with data collection and comparability to previous years' results. Fortunately, Global Funding calculations are not particularly sensitive to changes in MIS data. For example, a 2% change in MIS's acute care results has only a $2 million impact to the largest RHA. Still, the province's most recent spending patterns did not dictate the funding pool sizes for the 2004–2005 funding year and even small dollar impacts mean something to the smaller regions.

Classifications for continuing care need to be updated

For the continuing care activity sector, the classification categories used for assessing a resident's acuity level and the level of care required have not been updated since their implementation in the 1998–1999 funding year. The Department has indicated that they are planning to implement a new classification system.

Restructuring of RHAs led to a decline in quality of home care data

Home care data collected by the Department is incomplete. In 2003, the regional health authorities amalgamated from seventeen regions to nine. Prior to amalgamation, each of the seventeen regions relied on one of the two software applications used in the province. Upon amalgamation, regions that had used one type of software took over facilities that used the other software. As a result, some regions run two incompatible information systems to collect their home care data. In addition, some facilities did not revise their processes to submit home care data to their new regional offices. As a result, the regional data submitted to the Department is incomplete.

The Department plans to develop and implement its Continuing Care Information system by June 2007 to ensure consistency in the software that collects home care data across the province.

The broad age categories and the weighting scheme used in PPP allocation decisions were based on the judgment of departmental staff and lack objective support.

Implications and risks if recommendation not implemented

Over time, a significant effect on allocation equity may arise as a result of using incomplete, inaccurate, or outdated data.

5.5 Funding communications

Recommendation No. 20

We recommend that the Department of Health and Wellness improve the timeliness of its funding communications to the regional health authorities.

Background

Global Funding is the main source for RHA operating funds

The Department of Health and Wellness is the main source of funding for the RHAs. Global Funding accounts for approximately $4.3 billion or 81% of the total funding provided to the RHAs by the Department.

Department releases funding allocation information in April

The determination of funding for the RHAs is a complex process. The Health Funding and Economics unit (HF&E) does not receive the data for the calculations until August of the preceding year. HF&E then performs numerous calculations to determine the Global Funding allocations. Due to the complexity of these calculations, HF&E completes its work about December. Then due to the sensitivity of the information, the Department waits for both ministerial and legislative budgetary approvals. The Department does not release its funding allocation decisions to the RHAs until the budget vote in the Legislature in the spring.

RHAs' fiscal year begins in April

The RHAs' fiscal year commences April 1. Usually, the RHAs must prepare and submit a preliminary budget to the Department by October 28 each year and a final budget within 4 to 6 weeks of the government's budget announcement.

Final RHA budgets need allocation info

The RHAs can budget with certainty only after they receive their funding allocation information from the Department.

Criteria: the standards we used for our audit

Funding allocation decisions from the Department of Health and Wellness should support the RHAs' budgeting timetable.

Our audit findings

RHAs need to rework their budgets after learning their funding allocations

We found that the RHAs cannot finalize their budgets until after the beginning of their fiscal year because the Department does not make final funding allocation decisions until after April 1. As a result, RHAs begin their fiscal years without a final budget in place. As well, RHAs spend considerable resources in working and then reworking their budgets to accommodate the Department's funding decisions.

Department can release preliminary info earlier

The Department is able to provide a preliminary estimate of the expected funding at the end of December or beginning of January. Of course, the preliminary estimate is subject to change because it has not received final approval through the government's budgeting process. However, it is the best estimate at that time.

Ontario releases its allocation info earlier

While most provinces do not make their health funding announcements in advance of the budget announcements, the Province of Ontario recently began announcing its funding allocation decisions in October, five months in advance of the formal budget release. This indicates that it is possible to improve the timing of funding information without jeopardizing legislative process.

Implications and risks if recommendation not implemented

Without timely funding communications, the RHAs are unable to finalize their budgets.

By providing preliminary funding information to the RHAs, the Department will support and improve the RHAs' planning processes. The RHAs would have the revenue-side information to make realistic expenditure decisions and plans. RHAs might also avoid potential cost overruns or service shortages that may arise because they had operated for a portion of the year without an authorized budget.

5.6 Coordination of capital and operating decisions

Recommendation No. 21

We recommend that the Department of Health and Wellness ensure that capital and operating funding decisions for regional health authorities are coordinated.

Background

"Health Capital Planning Manual" from Health and Infrastructure

In addition to operational funding, the Alberta government also provides capital funding to the RHAs. Capital funding is a joint effort between the Departments of Infrastructure and Transportation and Health and Wellness. The Departments developed a "Health Capital Planning Manual" that outlines the policies, processes, guidelines and minimum standards for regional capital funding requests, plans, and documentation. One of the four primary purposes of the multi-year capital plan is to provide a preliminary estimate of the operating cost implications of the proposed capital investment.

Each RHA submits a multi-year capital plan

Using the "*Health Capital Planning Manual*", each region must submit a multi-year capital plan to the Ministers of Health and Wellness and Infrastructure and Transportation by June 30.

Criteria: the standards we used for our audit

The Department of Health and Wellness should ensure that the Global Funding methodology is coordinated with capital budgeting.

Our audit findings

Global Funding formula does not factor in a region's capital structure

The theory behind Global Funding states that a RHAs' population will determine operational funding. A RHA receives its Global Funding based on its population's characteristics. With the Global Funding that it receives, the region can deliver its health services as it sees fit. If a RHA decides to deliver its services using new capital structure, that is the business of the RHA, not of the funding formula.

Opening a new facility usually requires operating funds

However, the reality is that RHAs now spend all of their operating funds delivering services with their existing capital structure. Opening a new capital facility while maintaining existing facilities will usually require more operating funds. For example, the region will hire more staff, pay for more goods and services, and use more utilities to run the new facility. Yet given the mechanics of Global Funding, that RHA will not receive more funding because its population has not changed. At the very least, changes in service delivery and population characteristics will take two years to run through the Global Funding methodology. This scenario increases the risk that a RHA will generate an operating deficit. Historically, the Department has covered RHAs' deficits.

Capital and operating funding decisions not coordinated

The Department funds the RHAs' operations through Global Funding, province-wide services, and non-base funding. We did not examine the Department's province-wide services, non-base, or capital funding during this audit. However, through enquiry we could not determine how the Department coordinates these funding initiatives. For example, we found that the multi-year capital plan, submitted by the RHAs, does not consider the operating cost implications of capital expansion. As well, it does not consider the expected source for increased operating funding, whether it will come from increased import charges, province-wide services, or population-based funding.

Implications and risks if recommendation not implemented

If the Department does not ensure that its capital funding is coordinated with its operational funding, it is at risk of under-funding a RHA with rapid capital growth. An inadequate regional operating budget may result in compromised health care services or an operating deficit. The government has traditionally covered regional operating deficits, so coordinated financing at an early stage may reduce future financial risks to the Department.

5.7 Document preservation

Recommendation

We recommend that the Department of Health and Wellness retain the documentation and support for its Global Funding methodology decisions.

Background

Many decisions underpin Global Funding

The Department developed its Global Funding allocation decisions on a foundation of detailed analyses, calculations, and decisions. The Department maintains the documentation of these decisions so it can justify or even recreate the decision-making process.

Department publishes annual Global Funding *Manual*

In addition, the Department publishes the Regional Health Authority Global Funding *Methodology and Funding Manual* for each funding year. The manual documents for stakeholders the methodology and the calculations of the Global Funding allocations.

Criteria: the standards we used for our audit

The Department of Health and Wellness should maintain supporting documentation for each aspect of the Global Funding methodology.

Our audit findings

Two pieces of supporting info misplaced

In general, the Department has maintained the history of analyses, decisions, and calculations that underpin Global Funding. However, over the years two important components of supporting documentation work have been misplaced.

Support for the 7 continuing care categories

The supporting documentation was lost for the relative cost weights, established several years ago, for each of the seven classification categories used in allocating funds for the continuing care activity sector in the Global Funding methodology. This information would be useful as the Department is planning to re-visit the relative cost weights in the future.

Support for Academic Health Centers adjustment

The supporting documentation for the Academic Health Centers non-formula funding adjustment was also misplaced.

Implications and risks if recommendation not implemented

Without supporting documentation on how it derived components of Global Funding, the Department risks losing the rationale and methodology behind established amounts. The documents are important should the Department update or recalculate a component. Documentation also ensures that independent parties can independently verify the methodology.

5.8 Data availability

Recommendation

We recommend that the Department of Health and Wellness improve the availability and timeliness of data to the regional health authorities.

Background

The Department of Health and Wellness makes data and information used in the Global Funding methodology available to the RHAs.

RHAs need the data to analyze their situations

RHAs require data from the Department for a number of reasons. For example, the RHAs can compare the nature and extent of procedures performed in their facilities with other RHAs. They are also interested in analyzing why patients leave their own RHA to obtain services in other RHAs. Information about import-export services is important for both funding and operational decisions.

Criteria: the standards we used for our audit

The Department of Health and Wellness should provide timely data and information in response to reasonable regional health authorities' requests.

Our audit findings

The Department does not always provide timely data and information to the RHAs.

Some data requests cannot be actioned by the Department

The turn around is prompt for ad hoc requests made by the RHAs for data maintained by the Health Funding and Economics unit (HF&E) at the Department. Typically, these requests take two to three days for processing. But the Department cannot honor some data requests for legitimate reasons. The *Freedom of Information and Protection (FOIP) Act* prohibits the release of certain data. For instance, FOIP prohibits the release of data when the population of the community is less than five as reviewers could then determine which individual received which health care services.

Other requests should be actioned promptly

However, the RHAs have legitimate reasons to request data. For example, regions need to understand why they incur export charges. An export charge occurs when a patient leaves the RHA to obtain services in another RHA. However, the data required for such an analysis, specifically inpatient data detailing the services provided in hospitals, is difficult to obtain from the Department on a timely basis. The approval for the release of data that is of Department-wide use, such as the inpatient data, can take up to two years. This makes the data out of date for the RHAs' analysis.

Implications and risks if recommendation not implemented

Without access to timely data, regions cannot fully analyze their service delivery. Providing timely data will support the regions to take the initiative in improving the efficiency and effectiveness of health care services.

5.9 Resolving Global Funding issues

Recommendation

We recommend that the Department of Health and Wellness refine its system to address and resolve the regional health authorities' Global Funding concerns.

Background

Global Funding methodology should be transparent

The Global Funding methodology is complex. Many elements play a role in developing the methodology and determining the funding allocations. Stakeholders cite the importance of a methodology that eliminates "personal or corporate influence" on funding decisions. It is important that the methodology be seen to be free of inappropriate influence. At the same time, the Department needs to address issues with the methodology promptly.

Working Group addresses issues with the methodology

Since 1997–1998, the Funding Methodology Working Group (FMWG) has provided support and advice on Global Funding methodology issues to the Department and the regions' Chief Financial Officers Committee. The FMWG also acts as the coordinating body for funding, costing, and data quality methodological issues. Representatives from all the regions and the Department comprise the FMWG.

HF&E makes presentations to stakeholders

The Department and specifically the Health Funding and Economics unit have made presentations about the Global Funding methodology to RHA boards and administrators, as well as to politicians.

Criteria: the standards we used for our audit

The Department of Health and Wellness should have a system to deal with evolving issues in the Global Funding methodology.

Our audit findings

Department has made methodology decisions without consulting the Working Group

The FMWG is an advisory group; the Department always makes the final decisions about the allocation methodology. Occasionally the Department has decided methodology issues without consulting the FMWG, a body established to promote the Ministry's objectives of transparency and equity. For example, the FMWG did not vet the decision to remove the negative adjustments on the diagnostic imaging adjustment.

Regions feel the Working Group can contribute more

However, the FMWG can help develop solutions to methodology issues and minimize the reservations that RHAs have about Global Funding. We discussed the role of the FMWG with senior management at the RHAs. Overall, the RHAs feel that the FMWG does not address and help resolve all issues raised by the RHAs on a timely basis. Recommendation No. 18 in this report discusses some of these issues. Adjustments that many RHAs feel are not justifiable (such as the alternate payment plan) continue to exist. This increases skepticism amongst the RHAs about the fairness of the Global Funding methodology.

Small RHAs do not have the same technical resources as large RHAs

Management at some RHAs has cited that select RHAs have greater influence in addressing allocation issues. Most RHAs do not have staff with health economics backgrounds to analyze or recalculate Global Funding, especially the adjustments. Generally, the smaller RHAs feel they do not have the resources of the larger urban RHAs to analyze and influence decisions about Global Funding. From our survey of RHAs, it appears that the two urban RHAs are the strongest supporters of the Global Funding methodology, possibly because they understand it best. Over the years, the Health Funding and Economics unit has provided some analysis for smaller RHAs on an ad hoc request basis, but the unit's capacity is limited.

Implications and risks if recommendation not implemented

Without an effective system to deal with the regions' concerns about the Global Funding methodology, skepticism about Global Funding will continue. The Department may lose the trust of its stakeholders that the Global Funding methodology is objective and fair.

Cross-Ministry

Summary: what we found in our audits

Systems

The Deputy Minister of Restructuring and Government Efficiency needs to provide guidance to help Deputy Ministers and their Chief Information Officers oversee Information Technology projects—see page 171.

The Deputy Ministers of Executive Council and Finance, along with the Public Service Commissioner, have implemented our recommendations on:

- Internal audit departments—see page 165.
- Audit committees—see page 166.
- Succession management guidance—see page 169.
- Internal control systems—see page 170.

As well, they made satisfactory progress implementing our recommendations on recruiting, evaluating and training boards of directors—see page 164, linking government and ministry business plans—see page 166, and guidance on societal measures—see page 167.

Overview

Systems that affect all or several ministries

This section of our annual report is unique because it focuses on the results of our examination of government systems and programs that affect the whole government or several ministries.

Central agencies develop policies that ministries implement

A number of ministries, such as Executive Council and Finance, are central agencies with broad government responsibilities. These central agencies develop corporate policies, strategies and guidance for ministries to operate within. Other ministries, such as Municipal Affairs, Innovation and Science, and Restructuring and Government Efficiency, have responsibilities for programs that have a cross-ministry impact. Examples of these programs are disaster planning and information systems.

Ministries work together

The government encourages ministries to work together to solve common problems. This is evidenced by the cross-ministry policy and administrative initiatives identified in the government business planning process. Ministries also work together on other matters that require several ministries to achieve results.

Scope: what we did in our audits

We followed up our previous recommendations in these areas:

1. Governance principles and guidance for the Alberta public sector covering: recruiting, evaluating and training processes for boards of directors; the oversight of internal audit departments; and the practices of audit committees.
2. Government and ministry business plans including the linkages between the plans and guidance for using societal measures.
3. Succession management guidance and support for all government departments.
4. Internal controls for access to the IMAGIS system.

Our audit findings and recommendations

1. Governance

1.1 Recruiting, evaluating and training boards of directors—satisfactory progress

Background

In our *2004–2005 Annual Report* (Nos. 1 and 2—page 28), we recommended that:

- the Deputy Minister of Executive Council update Alberta public sector governance principles and guidance so that they are consistent with current good practices for recruiting, evaluating and training directors.
- the guidance include a statement that governing boards evaluate and report publicly their own performance against both Alberta public sector principles and their own board governance policies.

Our audit findings

Subcommittee established to examine board governance models

The deputy ministers created a subcommittee on board governance to implement our two recommendations and to identify and develop:

- best-practice governance models for the respective roles and responsibilities of public sector boards, administrators and government.
- appropriate accountability structures and mechanisms.

Best practices compiled

The subcommittee has started collecting and assessing information on governance models and accountability mechanisms in Alberta and other jurisdictions. It has also compiled an inventory of best practices on recruitment, orientation, training, evaluation, term lengths and succession management for public sector board chairs and members.

Recruitment directive updated

The Public Service Commissioner, after consulting with the subcommittee, updated the *Directive on Recruitment for Agencies, Boards and Commissions*. The revised directive notes the importance of:

- considering the skills and experience required when establishing selection criteria, and
- selecting candidates who are able to perform their roles free of conflicts of interest.

The Directive is now consistent with current best practice.

What remains

To fully implement the recommendations, the subcommittee should provide guidance to governing boards for:

- evaluating and training directors, and
- evaluating and reporting publicly board performance against Alberta public sector principles and their own governance policies.

1.2 Guidance on internal audit departments—implemented

Background

In our *2004–2005 Annual Report* (No. 3—page 31), we recommended that the Deputy Minister of Executive Council provide guidance to audit committees for overseeing internal audit departments, including guidance on identifying related training.

Our audit findings

Guidelines issued to help audit committees oversee internal audit

In February 2006, Executive Council issued *Guidelines for Audit Committees Overseeing Internal Audit* to all deputy ministers, who in turn gave them to public sector agencies, boards and commissions. The audit committees of these agencies, boards and commissions will use this guidance to oversee the work of internal audit.

Guidelines provide good practices

The Guidelines provide good practices in audit committee support; internal audit charters; independence, objectivity and reporting lines; the role of the chief audit executive; risk assessment and audit plans; budgets and resources; and evaluating the internal audit function. The Guidelines also list resources for readers who want current information about internal auditing and training for audit committees.

1.3 Improving audit committee practices—implemented

Background

Previously, we recommended that the Deputy Minister of Executive Council, working through other deputy ministers, take steps to improve audit committee practices in the Alberta Public Sector (*2002–2003 Annual Report*, No. 1—page 25). In March 2005, Executive Council provided guidance to all deputy ministers in a document entitled *Guidance for Audit Committees of Government of Alberta Agencies, Boards and Commissions*. Executive Council outlined a one-year implementation period for all board-governed government agencies.

Our audit findings

Ministries have implemented guidance for audit committees

As of April 2006, 12 ministries advised Executive Council that their board-governed agencies had adopted the guidance for their audit committees. Only two ministries reported that their board-governed agencies were yet to implement the applicable guidelines—Advanced Education and Education. We will follow up on the implementation of the guidance with these two ministries. The remaining ten ministries reported that the ministry either did not have any agencies, boards or commissions (ABCs) or that ABCs within their ministry did not have governing boards.

2. Government and ministry business plans

2.1 Linking government and ministry business plans

Background

3 year government and ministry plans required

Under the *Government Accountability Act*, government and ministries prepare three-year business plans. Subsection 7(3) requires the government plan to include the mission, core businesses and goals of the government, as well as links to the ministry business plans. Subsection 13(3) requires ministry plans to include the same type of information, as well as links to the government business plan.

In our *2004–2005 Annual Report* (page 36), we recommended that the Department of Finance improve the links between the government and ministry business plans. We also recommended that the Department of Finance identify and describe core businesses in the government business plan. This year, we followed up on these recommendations by examining the 2006–2009 government and ministry business plans.

Criteria: the standards we used for our audit

- Government and ministry business plans should comply with the *Government Accountability Act*, specifically, in terms of describing core businesses.

- Links between the government and ministry business plans should be sufficiently clear to ensure that government goals, priorities, and strategies will be met.

Our audit findings

Description of core businesses—implemented

The *2006–2009 Government of Alberta Business Plan* includes—and briefly describes—its core businesses under the *Expense by Core Business* table.

Links between government and ministry business plans—satisfactory progress

Links between government and ministry plans have improved

The links between the government and ministry business plans have improved. The government's *Ministry Business Plan Standards* (the Standards) for 2006-2009 provide direct ion for linking ministry and government business plans, and ministry business plans substantially follow the Standards.

However, there are still two areas where the links between the government and ministry business plans are incomplete:

Still 2 areas to improve

1. The government business plan names seven ministries responsible for strategies under three goals, but the business plans of these ministries do not show a link to the three government goals.

2. Not all ministries responsible for helping to achieve government's goal 14, "a supportive and sustainable infrastructure," identify this goal in their business plans.

What remains

To fully implement our recommendation, the Department of Finance needs to work with ministries to correct these problems.

2.2 Guidance on societal measures—satisfactory progress

Background

We followed up our *2004–2005 Annual Report* recommendation (No. 4—page 38) that the Department of Finance develop guidance relating to the purpose, definition and use of societal measures. Societal measures were described in *Budget 2005* as measures that track broad social and economic trends, in contrast to performance measures, which track the progress being made in priority areas related to goals.

Our audit findings

The Guide defines purpose of societal measures and how they should be presented

The Guide, issued in December 2005, offers new direction by:

- defining and describing the purpose and use of societal measures.
- saying that if ministries include societal measures in their business plans they should present five years of actual results (if available) plus the desired results for the current three-year business plan period.

However, the Guide does not clearly distinguish final outcome measures from societal measures.

What remains

To implement this recommendation Finance needs to improve the Guide by clarifying the relationship between final outcome measures and societal measures.

2.3 Consistent performance measures and targets in government and ministry business plans—satisfactory progress

Background

We followed up our recommendation that the Deputy Minister of Finance, working with other deputy ministers, ensure that government and ministry business plans use consistent performance measures and targets (*2002-2003 Annual Report*, page 27).

The *Government of Alberta 2006–2009 Business Plan* includes 65 performance and societal measures for assessing the government's performance—50 of which also appear in ministry business plans.

Criteria: the standards we used for our audit

When government and ministry business plans use the same performance measures, they should describe them consistently and use the same targets.

Our audit findings

Consistency of measures improved

The government made satisfactory progress implementing the recommendation. The consistency of targets for the performance measures appearing in both the government and ministry business plans has improved.

Differences continue to exist

However, there are still three measures in the government and ministry business plans that have substantially different targets. Also, 6 measures that are the same in both plans are described so differently that it is not clear that they are the same.

What remains

To finish implementing the recommendation, the Deputy Minister of Finance, working with other deputy ministers, must resolve these remaining inconsistencies.

3. Human resource management

3.1 Succession management guidance—implemented

Background

Significant number of government employees are eligible to retire over the next 5 years

Succession management is the process organizations use to anticipate and secure an adequate supply of talent for future needs. Succession management is an important issue for the Alberta Government because a significant number of government employees are eligible to retire over the next five years, and there is increased competition for scarce employee resources. Both these factors increase the risk of a future shortage of skilled staff.

Recommendations to improve succession management systems

In 2003, we examined the government's succession management systems. In our *2003–2004 Annual Report* (No. 1—page 32), we recommended that the Personnel Administration Office (PAO), working with the deputy ministers:

- provide further assistance to departments to facilitate developmental opportunities for employees between departments.
- develop performance measures and targets to assess the effectiveness of strategies used to attract, develop and retain employees for all cross-ministry vulnerable and critical roles.
- provide additional guidance and support to help all departments implement succession management systems.

In our *2004–2005 Annual Report*, we reported that PAO and deputy ministers had implemented our recommendations to facilitate developmental opportunities for employees between departments and to develop performance measures and targets. This year, we followed up on the progress on this last recommendation.

Our audit findings

PAO provided succession management guidance and support to departments

PAO and deputy ministers provided guidance and support to help all departments implement succession management systems. PAO developed and introduced *Implementing the Succession Management Framework: A Guide for HR Practitioners in the Alberta Public Service* in December 2005. The Guide has information to help department human resource staff assess their department's succession management needs, develop a comprehensive plan, and implement succession management strategies. In 2006, PAO staff worked with all departments to ensure the guide was sufficient to help human resource staff develop and implement succession management systems in their departments.

PAO and departments are now working on improving their systems to meet future needs

The 2006–2007 Alberta Public Service Human Resource Plan includes a strategy to "strengthen succession management practices across the Alberta public service." PAO and departments are working together to meet succession management needs across government and improve succession management systems. These systems will help the government meet its current and future needs for qualified employees.

4. Internal controls

4.1 Improving access controls to IMAGIS—implemented

Background

In our *2001–2002 Annual Report* (No.1–page 23), we recommended that the Department of Finance, working with all other departments in the government, improve internal controls, in particular, controls for access to the IMAGIS system, the use of procurement cards, and compliance with sections 37 and 38 of the *Financial Administration Act*. In 2003–2004, we reported that the government implemented adequate controls for the use of procurement cards, and compliance with the Act. Last year, we reported that the government continued making satisfactory progress implementing access controls to IMAGIS.

Our audit findings

New access roles assigned

This year, the government finished implementing the recommendation by establishing access controls to IMAGIS. Last year, a sub-group of the Human Resources Directors Council completed its review of access controls in the IMAGIS human resources module and created new roles to avoid incompatible functions being assigned to the same user. In April 2006, the sub-group completed the assignment of new roles.

Security policies, guidelines and training provided

A sub-group of the Financial Management Committee completed its review of the access controls and documented the *Segregation of Duties Security Matrix* to highlight conflicting roles. The Matrix provides information to senior financial officers of all government departments for establishing compensating controls, if roles cannot be segregated. The sub-group also developed the *Security Administration Manual* to consolidate policies, practices and guidelines on security administration. Ministry security administrators attended training on policies, practices and guidelines for reviewing the roles of IMAGIS users in their ministries.

4.2 Expense reimbursements in public sector agencies, boards and commissions

Background

We examined nearly 800 travel and hosting expense reimbursement claims submitted by approximately 200 members of management and staff at 14 public sector agencies, boards and commissions. These travel and

hosting expense claims represented a total of approximately $691,000 in reimbursements.

Our audit findings

We found that controls over processing expense claims could be improved. Following are four common good practices that we recommended to the public sector organizations:

- Claims should be approved by a person at a higher level than the claimant—some expense claims were approved by a person at a lower level than the claimant.
- Claims should contain sufficient original documentation to confirm the nature of goods and services purchased—in some instances there was a lack of documentation to confirm what goods or services were bought. In other cases, copies or faxes were accepted as evidence of payment.
- Organizations should have a formal hosting policy—in some organizations, there was no policy to provide guidance in buying gifts and other hospitality expenses.
- Organizations with corporate credit cards should have a policy to govern their use—although we saw no personal use of corporate credit cards, a clear policy detailing cards use would mitigate the risk of abuse.

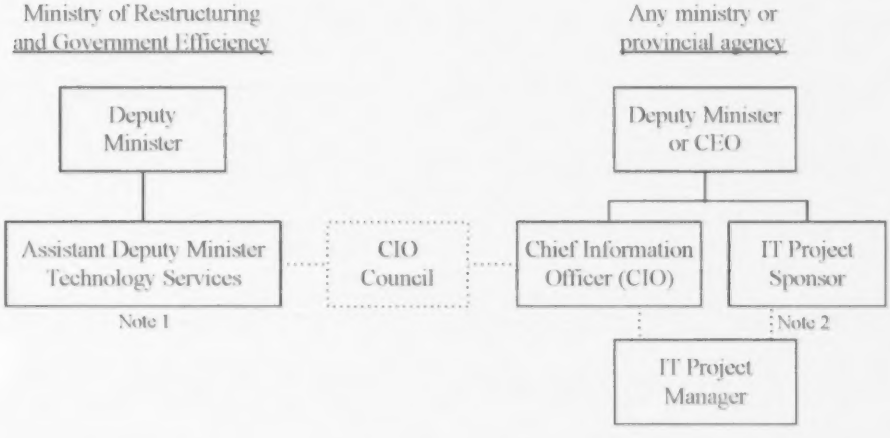
5. Information Technology Project Management

5.1 Summary

Introduction

This report presents a leadership opportunity for the Ministry of Restructuring and Government Efficiency and ministry Chief Information Officers (CIOs) to promote good project management practices. It also makes the point that Deputy Ministers, working through their CIOs and project sponsors, have a key role in implementing cost-effective IT project management.

Roles



Notes:

1. Assistant Deputy Minister (ADM) Technology Services
   The ADM Technology Services, responsible for coordinating IT strategy for government, has established standards for managing IT projects. These standards are based on reasonable and commonly accepted practices for project management. The Ministry does not enforce standards, but can communicate—through the CIO Council—the best practices that the government has adopted.

2. Project sponsor
   A project sponsor is the business program head who both approves the funding for an IT project and defines how success will be measured. The project sponsor represents all those who will use the result of an IT project. In effect, the sponsor is the owner of the new or modified computer-based information system.

Objective and scope of audit

Our objective was to assess if departments are complying with the IT project management standards recommended by the Ministry. Our audit focussed on the approaches that produced the results for three current or recently completed IT projects. For this audit, IT projects are defined as the development of computer-based information systems. The development is a large job that results in new or significantly modified computer applications.

Conclusion

Across the Alberta government, performance in achieving IT project objectives is inconsistent. Of the three projects we examined, one met its objectives, but only with exceptional effort by the project team. Another one met some of its objectives, but was cancelled before completion; the third one is partly complete and two years late in meeting its objectives.

For the three projects we examined, only half our audit criteria, based on the standards, were met. We found:

- None of the projects had a formal project justification or business case outlining costs and benefits. Therefore, the organization could not objectively evaluate if project objectives were met.
- All of the change required for success, that is both the business change and the systems change, was not managed as one project. The skills necessary to manage the overall effort were not identified and deployed.
- Steering committees were not bringing to bear the timely oversight necessary to challenge or approve decisions at the working level.
- There was minimal identification and evaluation of project risk. Consequently, there was no attempt to develop strategies to mitigate risk. By risk, we mean events likely to cause a project to be delayed, be over budget, or not meet user needs. Risks include loss of experienced staff, lack of management commitment and major change in user requirements.
- The cost of internal staff time and other resources was not apportioned to IT projects thereby precluding valid cost benefit analysis.

The criteria that the projects did best on relate to communications, documentation and alignment with the government's standards for developing common programs.

IT projects have to be managed just as other projects do. We believe the Alberta government will achieve better value for money from its IT projects when project sponsors better understand and execute their project management responsibilities.

5.2 Background

In our *2000–2001 Annual Report*, we recommended that the Ministry of Innovation and Science establish guidelines for systems development methodology in government projects. In the fall of 2005, the responsibility for implementing this recommendation was transferred to the newly formed Ministry of Restructuring and Government Efficiency. The recommendation was implemented in the same year. The Ministry established the Government of Alberta Enterprise Architecture standards for developing common programs that can be reused in any systems development without rewriting. However, the Ministry still had to develop guidelines for project management.

The Ministry coordinated the adoption of the Project Management Body of Knowledge, established by the Project Management Institute, as a standard for project management. It also adopted the ISO/IEC 12207, established by the International Organization for Standardization, as a standard for software development. Together, these standards (the Standards) provide guidelines for managing IT projects.

We had previously observed that some IT projects have experienced significant cost overruns and time delays. Completed projects have not always met their objectives, and some projects have been halted, incurring costs without benefits. To better understand current IT project management and systems development practices, we selected three projects that have recently been developed, or are currently in development, in the Alberta government. This report discusses our audit findings on these projects.

5.3 Audit objectives

In this systems audit we examined the project management processes used in government to manage IT projects.

In a successfully managed project, the scope of the project is completed at the specified level of quality, on or before the deadline, and within budget. To achieve these three primary goals of quality, time, and price, it is essential to ensure that appropriate controls are in place to manage projects in accordance with standards as well as to respond to the unique risks of each project.

Our audit objectives were to identify:

- the degree to which objectives of IT systems projects are met.
- whether projects are being completed successfully.
- the extent to which best practices and controls are followed in managing IT projects in the Alberta government.

5.4 Scope: what we did in our audit

We examined three current or recently completed IT projects to understand how they were managed. We selected these projects based on their size, complexity, and relevance to typical IT projects that we have observed.

Our audit focussed on the approaches that produced the results. We examined:

- project management approaches used to deliver projects.
- contracts for the projects, and management of relationships between vendors and the government or government agency.
- how projects were justified and initiated and the governance processes used to oversee project management.
- how choices on development approaches were made, and the degree to which projects met the Architecture standards.

We examined project documentation, including business cases, project plans, status reports, and steering committee minutes. We also examined proposal documents and the resulting contracts to understand how contracts were procured to support project objectives. We interviewed stakeholders involved with the projects, including sponsors, steering committees, project management office staff, project managers, and project team members.

The Standards were not always used in planning the projects. The Standards are not prescriptive, but define reasonable and accepted practices for managing IT projects. Several techniques and approaches can be used to manage a project, while still meeting the purpose and intent of the Standards. Our audit focussed on the degree to which project management met the purpose and intent of the Standards.

5.5 Our audit findings and recommendation

Recommendation No. 22

We recommend that the Deputy Minister of Restructuring and Government Efficiency provide guidance to Deputy Ministers and their Chief Information Officers on their responsibilities for overseeing information technology projects.

This recommendation is directed at the Deputy Minister of Restructuring and Government Efficiency since that Ministry is responsible for coordinating IT strategy for government. The Ministry does not enforce standards, but can communicate—through the CIO Council—the best practices that the government has adopted.

However, without the oversight of Deputy Ministers and CIOs, the Government of Alberta cannot ensure that best practices and controls are followed to manage IT projects successfully. It is their responsibility to ensure that project sponsors understand and fulfil their responsibilities.

The findings that follow illustrate the key areas on which Deputy Ministers and CIOs should focus their oversight. First, we summarize our findings and then we provide a detailed explanation of each of the five areas:

Business cases for projects—none of the projects had a formal project justification or business case outlining costs and benefits. Therefore, the organization could not objectively evaluate if project objectives were met.

Project responsibilities—all of the change required for success, that is both the business change and the systems change, was not managed as one project. The skills necessary to manage the overall effort were not identified and deployed.

Governance—steering committees were not bringing to bear the timely oversight necessary to challenge or approve decisions at the working level.

Project risks—there was minimal identification and evaluation of project risk. Consequently, there was no attempt to develop strategies to mitigate risk. By risk, we mean events likely to cause a project to be delayed, be over budget, or not meet user needs. Risks include loss of experienced staff, lack of management commitment and major change in user requirements.

Cost tracking —the cost of internal staff time and other resources was not apportioned to IT projects thereby precluding valid cost benefit analysis.

Our audit criteria for IT project management set out our expectations of project sponsors. A project sponsor is the business program head who both approves the funding for an IT project and defines how success will be measured. The project sponsor represents all those who will use the result of an IT project. In effect, the sponsor is the owner of the new or modified computer-based information system.

5.1.1 Business cases for projects

Criteria: the standards we used for our audit

Project sponsors should demonstrate ownership of their projects by justifying their need and measuring their success.

Our audit findings

Projects did not have a business case, or the associated business case did not reflect the specific project. Business cases were prepared early in a project's development and were not revised to update costs and benefits. Sometimes, they evaluated several projects at once. None of the projects had a current business case reflecting costs and expected outcomes at the time of project approval.

There was no evaluation of project success. Because there was no formal business case for any of the projects, it was not possible to evaluate project results. There was typically no formal definition of the success criteria to allow for project evaluation, or no revision of those criteria if the project scope changed significantly.

Implications and risks

Without a business case for a project, an organization may not be able to properly evaluate and justify its projects. And it cannot be certain that it is achieving the best return from its project investments.

5.1.2 Project responsibilities

Criteria: the standards we used for our audit

Project sponsors should ensure there is clear accountability for managing the full scope of the project, and that assigned resources have the skills and capacity to effectively manage the overall effort.

Our audit findings

Two projects focussed on just the systems change, not on the overall business change required to fully deliver on the requirements. The associated policy and process changes and business implementation required to realize the results were typically managed as separate, operational activities rather than integral parts of the project scope.

While each project had internal staff resources that had primary responsibility for delivery of the project, in only one instance did the resource assigned have formal project management skills to oversee the project. Assigned internal staff also often maintained responsibilities for other operational and project activities. The absence of formal project management expertise was offset through other strategies, including reliance on a central project office for one project and engagement of a business project manager on a contract basis for another. For two of the projects, there was a primary reliance on the vendor project manager to monitor and track the overall project.

Implications and risks

Projects may not achieve their expected results because decisions may be deferred, avoided or compromised as a result of conflicts in priorities and obligations. Business decisions may not be made in time to support the related systems changes. Systems may be delivered but not used because the necessary change management activities have not occurred.

5.1.3 Project governance

Criteria: the standards we used for our audit

Project sponsors should define the governance expectations of those with project oversight.

Our audit findings

Although the need for project steering committees was identified, how they were to function was not defined. The review and acceptance of completed work (deliverables) was typically managed at a working level, rather than at the steering committee level. When deliverables did require senior management approval, there were often delays, particularly when that work also involved policy considerations. Project teams proceeded with deliverables where policy decisions had not been finalized or previous deliverables had not yet been formally signed off.

Implications and risks

If senior managers and executives do not have a clear governance role, projects may not fully meet the needs of the organization, and the change the project is designed to create may not happen. Failure to finalize policy changes or appropriate sign-offs before continuing with further project work can lead to considerable rework, resulting in delays and potentially costly overruns.

5.1.4 Project risks

Criteria: the standards we used for our audit

Project sponsors should ensure that project teams formally identify and evaluate all risks to project success, and develop appropriate strategies to mitigate and monitor the risks.

Our audit findings

There was minimal risk identification beyond an initial classification of risks in the project charter or business case. Even when risks were identified, there was typically no attempt to quantify the risks or develop appropriate strategies to mitigate them. Also, there was no on-going risk review at key milestone points to identify whether new risks had been encountered, or previously identified risks had changed or been eliminated. When risks were identified, they were usually defined by the vendor. There was no formal review of the risks associated with the vendor contracts, or identification of appropriate mitigation strategies or contingency plans.

Implications and risks

Identifying initial and emerging risks enables the project team to incorporate strategies to avoid or mitigate the risks, or to establish contingency plans. Delays, roadblocks and cost increases may be avoided. Organizations may not enter into the best possible contracts to meet the needs of the project.

5.1.5 Cost tracking

Criteria: the standards we used for our audit

Project sponsors should ensure that all project costs are identified and monitored.

Our audit findings

For each project, the budget was based on the vendor contracts. None of the projects included costs for internal resources that contributed directly to the project. Costs associated with infrastructure, software and other expenses were absorbed operationally without being reflected in the project budget. For one project, nearly two years of internal development effort was absorbed through internal operational budgets after the initial contract for external resources expired.

Implications and risks

Projects may appear more appealing than they really are if business cases don't accurately show their costs. As a result, projects that do not provide sufficient benefits for their true cost may still be approved. There is an opportunity cost associated with internal salary and infrastructure costs. Not properly apportioning these costs to IT projects means the best value may not be achieved and the best use of the organization's resources may not occur.

Government of Alberta and Ministry Annual Reports

Summary: what we found in our audits

Performance reporting

- Financial statements

Unqualified opinion for government and 21 ministries; 3 reports qualified

Our auditor's reports on the Government of Alberta's consolidated financial statements and for 21 ministry financial statements are unqualified. The reports on three ministry financial statements include reservations of opinion for not including SUCH sector organizations in their respective reporting entity—see page 181. The SUCH sector includes schools, universities, colleges and health authorities.

- Performance measures

No exception—Measuring Up; Exceptions in 3 ministries

We found no exceptions when we applied specified auditing procedures to the performance measures in the *Measuring Up* section of the *Government of Alberta Annual Report*. We found 3 exceptions in 3 of 24 ministries when we applied specified auditing procedures to ministry performance information in the 2005–2006 ministry annual reports—see page 183.

Overview

This section highlights the results of our examination of the Government of Alberta Annual Report.

Minister of Finance's responsibility

The Minister of Finance is responsible for preparing the government fiscal and business plans and the consolidated annual report under the *Government Accountability Act*.

Government business plan, fiscal plan and annual report

The Government of Alberta Strategic Plan in *Budget 2005* includes Alberta's vision, 20 year strategic plan, government wide initiatives and medium term strategies, and a three-year government business plan (government plan). The government plan identifies the goals, key strategies, performance and societal measures and targets. It also identifies 14 goals, with strategies and measures for each goal. The government's fiscal plan outlines the consolidated budget to achieve the desired results in the business plan. The *Government of Alberta Annual Report* shows the results achieved against the measures and targets in the business plans.

24 ministries contribute to government results

The Alberta government has 24 ministries. Ministers and deputy ministers are responsible for managing their ministries and contributing to the achievement of government goals. Ministry business plans and annual reports provide information on the ministry's contribution to government results.

2005–2006 financial results

In 2005–2006, the Government of Alberta received approximately $36 billion in revenue and spent approximately $27 billion. The following summarizes the significant revenues and expenses:

	(millions of dollars)
Revenues	
Income and other taxes	$ 10,867
Non-renewable resource revenue	14,347
Transfers from Government of Canada	3,392
Other	7,281
	35,887
Expenses	
Health	9,713
Education	6,903
Social services	2,721
Other	7,854
	27,191
Excess of revenues over expenses for the year	$ 8,696

Government website

For more information on the government and its programs, see its website at www.gov.ab.ca.

Scope: what we did in our audits

We audited the government's consolidated financial statements and all ministry financial statements for the year ended March 31, 2006. We also followed up our previous recommendation to improve corporate government accounting policies.

We applied specified auditing procedures to the government's performance measures reported in the Measuring Up section of the government's annual report and in all ministry annual reports.

Our audit findings and recommendations

1. Performance reporting

1.1 Financial statements

Unqualified opinion on consolidated financial statements

We issued an unqualified auditor's report on the government's consolidated financial statements for the year ended March 31, 2006. These consolidated financial statements include the following entities of the government:

- departments—24
- regulated funds—13
- provincial agencies—36
- commercial enterprises—5
- commercial Crown-controlled corporation—1
- non-commercial Crown-controlled corporations—2
- Offices of the Legislative Assembly—6
- school boards and charter schools—75
- universities—4
- colleges—14
- technical institutes and the Banff Centre—3
- regional health authorities and other health boards—11

The above list does not include the subsidiaries of provincial agencies, commercial enterprises, and Crown-controlled corporations.

Qualified opinion on 3 ministry financial statements

Our auditor's reports on the financial statements of 21 (2005–24) ministries are unqualified. Our auditor's reports on three ministry financial statements (Advanced Education, Education, and Health and Wellness) are qualified for not including the SUCH sector entities in their respective reporting entity. Further detail on this issue follows in section 1.2.

1.2 Corporate government accounting policies—satisfactory progress

Background

In our *2002–2003 Annual Report*, we again recommended (No. 2—page 40) that the Department of Finance change the corporate government accounting policies to improve accountability.

Effective April 1, 2005, the Public Sector reporting entity accounting standard requires controlled entities such as school boards, post-secondary institutions, and regional health authorities (SUCH sector entities) to be fully consolidated line-by-line within the provincial and ministerial consolidated financial statements. In a three-year transition period to March 31, 2008, a government is permitted to use the modified equity method of accounting.

Our audit findings

The financial results of Crown-controlled SUCH sector organizations are included in the consolidated financial statements of the Province of Alberta for the year ended March 31, 2006, using the modified equity method of accounting.

Transitional accounting used at provincial level but not at ministerial level

The ministries of Advanced Education, Education, and Health and Wellness did not include the financial results of the controlled SUCH sector entities in their respective ministry consolidated financial statements for the year ended March 31, 2006. Instead they explained in the notes to their ministry consolidated financial statements the impact of not including these entities on a modified equity basis. These ministries did not include these controlled entities in the reporting entity because in the transition period, the government will assess when and how to include controlled SUCH sector entities in the financial statements of these ministries. As a result, we qualified our auditor's reports on these ministries' financial statements.

Transitional accounting is not a full consolidation

Schedule 9 to the Consolidated Financial Statements of the Province of Alberta for the year ended March 31, 2006 describes the effect of including the financial results of Crown-controlled SUCH sector organizations. Using the modified equity method of accounting, the net assets of the Province were increased by approximately $3 billion. Under this transitional method of accounting, we estimate that the province's net assets are reported at approximately $10 billion less than would have been reported under a full line-by-line consolidation.

We will continue to work with the Ministry of Finance and management of the ministries of Advanced Education, Education, and Health and Wellness on the implementation of the reporting entity standards.

What remains

It is the government's intention to fully consolidate its Crown-controlled SUCH sector organizations, line-by-line, in the provincial and ministerial consolidated financial statements by the year ending March 31, 2009.

1.3 Performance measures

No exception in our report on the Government's annual report

We found no exceptions when we applied specified auditing procedures to the performance measures in the *Measuring Up* section of the Government of Alberta's Annual Report.

Exceptions in our reports for 6 ministries

We found no exceptions when we completed specified auditing procedures on the performance information in the 2005–2006 ministry annual reports for 18 ministries. However, our reports for 6 ministries (Agriculture, Food and Rural Development, Environment, Health and Wellness, Innovation and Science, Seniors and Sustainable Resource Development) noted exceptions. These exceptions are described in the sections for those ministries in this *Annual Report*.

Seniors Care and Programs

Summary

We made 11 recommendations to 2 Departments

In May 2005, we made 11 recommendations to the Departments of Health and Wellness and Seniors and Community Supports (the Departments) to improve the systems used to manage seniors care and programs in long-term care facilities and supportive living settings.

Satisfactory progress on 3 recommendations

This year, we found that the Departments made satisfactory progress on three recommendations on developing and maintaining care and accommodation standards in long-term care facilities and supportive living settings.

Progress report on other 8

For the other eight recommendations, we obtained a summary of the significant actions the Departments have taken and their implementation plans. Significant work remains, but the Departments are working closely with the Regional Health Authorities (the Authorities) and other stakeholders.

We made recommendations to each Authority

We also made a number of recommendations to each Authority to improve their processes for delivering seniors care and programs in long-term care facilities. In this case, we obtained a summary of the significant actions the Authorities have taken and their implementation plans.

We will fully assess the Department's and Authorities progress on all our recommendations and report the results in our *2007–2008 Annual Report*.

Background to original audit

In 2005, we audited the Departments' systems used to deliver the Seniors Lodge Program and services in long-term care facilities. Our objective was to determine if the Departments had appropriate systems in place to manage seniors care and programs.

Our audit was extensive and included examining the systems used by the Departments, the Authorities, management bodies (also called lodge operators), and long-term care facility operators to manage and deliver these services and programs.

Systems for delivering care and programs required significant improvement

We concluded that the systems required significant improvement. As a result, we made 11 recommendations to the two Departments and recommendations to each Authority. Our key findings were that:

- standards for nursing and personal care housing services in long-term care facilities and standards for the Seniors Lodge Program were not current,

- standards were needed for services delivered in assisted living and other supportive living settings,
- systems to monitor compliance with standards for both long-term care facilities and lodges were inadequate,
- the Departments required further information to assess the effectiveness of the services and programs, and
- only 68.7% of the basic care standards were met by the 25 long-term care facilities we visited across Alberta. No facilities met all the basic care standards.

We made 2 other recommendations on Seniors Benefit Program

We also made two recommendations to the Department of Seniors and Community Supports to improve its systems for delivering the Alberta Seniors Benefit program. We will follow up on these recommendations directly with the Department of Seniors and Community Supports and report the results in that Ministry's chapter in our *2006–2007 Annual Report*.

Objective, scope, approach and criteria

This year, our objectives were to:

- assess the process the Departments used to develop new care and accommodation standards
- obtain a report on the progress made by the Departments and Authorities in implementing our 2005 recommendations on seniors care in long-term care facilities and supportive living settings

To do this, we:

- reviewed the Departments' actions and plans to implement our recommendations
- examined the process the Departments used to develop the Continuing Care Health Service Standards, the Long-Term Care Accommodation Standards, and the Supportive Living Accommodation Standards
- reviewed Authorities' actions and plans to implement the recommendations in our management letters
- reviewed Authorities' actions to deal with the significant findings from our visits to the long-term care facilities in their region

We used the original audit criteria, focusing on the following unmet criteria. The Departments should:

a) establish an accountability framework to ensure that responsibilities for services and programs are fulfilled
b) have systems to determine, and strategies to meet, future needs for services and programs
c) have systems to periodically measure, evaluate and report on the effectiveness of services and programs
d) have systems to develop and maintain current standards for services and programs

e) have systems to ensure compliance with standards for services and programs

Our audit findings and recommendations

1. Department of Health and Wellness and Department of Seniors and Community Supports

1.1 Continuing care health service and accommodation standards—satisfactory progress on three recommendations

Background

Living settings—the Alberta Government provides health, social, personal care, and housing services to seniors in a variety of settings. The names of these settings vary throughout the province. In this report, we use the following 3 categories for the settings:

3 categories of care and housing

- **facility based**—long-term care facilities, including both nursing homes and auxiliary hospitals. Residents receive 24-hour registered nursing care, personal care and housing services. There are 208 long-term care facilities in the province with approximately 14,400 beds.
- **supportive living**—there are many types of supportive living settings including assisted living, designated assisted living, lodges, enhanced lodges, senior's complexes and group homes. Residents generally do not require 24-hour nursing and personal care services but may receive a variety of nursing care, personal care and housing services. The nature and extent of the care and services varies between settings. There are 148 lodges with 8,800 beds and approximately 12,000 beds in other supportive living settings.
- **home living**—these include single dwellings and apartments. Residents typically receive home care health services.

Responsibilities—the Department of Health and Wellness is responsible for publicly-funded health care services. The Department of Seniors and Community Supports is responsible for overseeing the government's role in providing accommodation services.

Recommendations

Three recommendations on standards

In our 2005 report, we made two recommendations to the Department of Health and Wellness to work with the Regional Health Authorities and the Department of Seniors and Community Supports to:

- update the Basic Service Standards for services in long-term care facilities and implement a system to regularly review and update the Basic Service Standards to ensure they remain current.
- establish standards for care and housing services provided in assisted living and other supportive living settings.

We also made a third recommendation to the Department of Seniors and Community Supports to update the Seniors Lodge Standards and implement a process to maintain them.

Our audit findings

Satisfactory progress developing standards

The Departments have made satisfactory progress implementing the three recommendations to develop and maintain standards. They still have to implement a system to regularly review and update the standards to ensure they remain current.

The Departments worked together to replace the Basic Service Standards and Seniors Lodge Standards with the final Continuing Care Health Service Standards (Care Standards), Long-Term Care Accommodation Standards and Supportive Living Accommodation Standards.

The following table summarizes the final standards[1] and key areas they cover:

Key areas covered by new standards

Standards	Department responsible	Applies to	Key areas covered
Continuing Care Health Service Standards	Health and Wellness	publicly-funded health care services provided in facility based, supportive living and home living settings	• client concerns • promoting wellness • standardized assessment • care plans • medication management • operational processes • health care providers • service coordination • therapeutic services • quality improvement
Long-Term Care Accommodation Standards	Seniors and Community Supports	accommodation services provided in all facility based settings	• physical environment • hospitality services • safety services • personal services • service coordination • residential services • human resources • management and administration
Supportive Living Accommodation Standards	Seniors and Community Supports	accommodation services provided in all supportive living settings	• physical environment • hospitality services • safety services • personal services • service coordination • residential services • human resources • management and administration

[1] A complete copy of the standards is available at www.continuingcare.gov.ab.ca/Document_news.htm

Care standards are outcome-focused

The Care Standards are outcome-focused. They provide specific guidance in the areas of public concern and importance—integrated care plans and quality improvement. The Care Standards require the Authorities to establish policies and processes for health service providers and medication management, and to ensure that all facilities have a process to resolve concerns.

Broad consultation to develop standards

Process to develop standards—the Departments incorporated principles from the Canadian Council on Health Services Accreditation and the Health Quality Council of Alberta to develop standards that focus on quality care. The Departments prepared draft care and accommodation standards, which they gave to the MLA Task Force for public consultation. The draft standards were also posted on the Government of Alberta's "Continuing Care in Alberta" website for public comment. In addition, the Department of Seniors and Community Supports shared the draft standards with lodge operators. The Department of Seniors and Community Supports performed lodge reviews, using the draft standards as a benchmark.

Stakeholders consulted

Using results of the consultation process, and with legal help, the Departments drafted revised standards. The Departments used stakeholder focus groups to refine the revised standards and get consensus. The stakeholders included:

- Alberta Long Term Care Association
- Alberta Senior Citizens' Housing Association
- MLA task force representatives
- health care professionals (such as doctors and nurses)
- long-term care facility operators and home care agencies
- public and private supportive living facility operators
- regional health authorities
- dietitians
- senior lodge surveyors

Care and accommodation standards released

The final standards were released on May 3, 2006. The Care Standards and the Long-term Care Accommodation Standards were released under directives of the *Regional Health Authorities Act*. The Supportive Living Standards were released by the Department of Seniors and Community Supports. The Minister of Seniors and Community Supports is now working with the Minister of Children's Services to sign a memorandum of understanding that will allow the Minister of Seniors and Community Supports to license supportive living facilities, set the Supportive Living Accommodation Standards in regulation, and monitor compliance with the Supportive Living Accommodation Standards under the *Social Care Facilities Licensing Act*.

Continuing Care Leaders Council used to reduce risk of inconsistency

Ongoing monitoring and communication of standards—through the Department of Health and Wellness' accountability requirements, the Authorities will report quarterly on key elements (such as access to services and quality of care) of the final standards. Other initiatives, including the Continuing Care Leaders Council (the Council) which is made up of representatives from each Authority, and from the Departments, are designed to reduce the risk of inconsistency in services provided, and non-compliance with standards across the Authorities.

Standards communicated

The Departments have worked together to communicate the final standards to the Authorities, facility operators (long-term care and supportive living), home care agencies, and other stakeholders—by visiting each region to hold information sessions and answer questions.

What remains to be done

To finish implementing our recommendations on developing and maintaining standards, the Departments need to put in place a process for maintaining the standards that:

- ensures the standards are current and relevant
- considers information gathered from monitoring compliance with the standards
- considers the results of complaints, incidents and investigations
- obtains information from key stakeholders

1.2 Eight other recommendations—progress report

Background

Progress report on 8 recommendations

In our 2005 report, we made eight other recommendations to improve the systems used to provide services in long-term care facilities. The recommendations covered monitoring compliance with care and accommodation standards, measuring the effectiveness of long-term care services and determining future needs for long-term care services. We now report progress on these eight recommendations, although it is too early to assess implementation.

Progress report

Departments' actions to implement recommendations—since the release of our report, working together, the Departments have:

Accountability documents updated

- updated the Guide to Health Authority Accountability Documents, which includes a section on 3-year Health Plans; the Guide requires Authorities to establish goals and targets, including key elements of the Care Standards and report against them—one target is the average paid hours of care (nursing and personal) per resident-day, which increased to 3.4 hours from 1.9 hours.

Targeted funding

- provided targeted funding for long-term care facilities to implement an information system to assist with care assessment and planning.

- required Authorities—through the 3-year planning process—to report their progress implementing the information system.

Training plan developed

- developed (Department of Health and Wellness) a training plan for the final Care Standards to ensure that all facility staff (long-term care and supportive living), and staff responsible for continuing care at the Departments, know all the final standards by the end of 2006. This training will be supplemented with specific training in high-risk areas (such as infection control, abuse, medication) over the next 12 to 18 months.

Lodge reviews completed

- performed (Department of Seniors and Community Supports) reviews of lodges using draft accommodation standards as a benchmark.

What remains to be done

Departments' plans to implement recommendations—the Departments plan to:

- update the Accountability Documents to include additional reporting on elements of the final standards
- continue to monitor Authorities' progress on their Ten-Year Continuing Care Strategic Services Plans through the accountability requirements of the 3-year Health Plans
- decide how they will monitor compliance with the final standards
- train facility operators (long-term care and supportive living) on the final standards
- implement (Department of Seniors and Community Supports) supportive living facility licensing, develop a complaints reporting and resolution mechanism, and decide how supportive living facility operators will be accredited

2. Regional Health Authorities—progress report

Background

In 2005, through management letters, we made recommendations to each Authority to improve their processes for delivering services in long-term care facilities.

Long-term care facilities not complying with all care and housing standards

As part of the original audit, we also visited a sample of 25 of 179 long-term care facilities across Alberta. Overall, our most significant concerns were about facilities failing to meet basic care standards for:

- providing medication to residents,
- maintaining medical records, particularly the application and recording of physical and chemical restraints, and
- developing, implementing and monitoring resident care plans

Progress report

Authorities' actions on recommendations

Authorities' actions to implement recommendations—the Authorities have:

- updated their 3-year Health Plans to include current goals and targets, including key elements of the final standards, as required by the Department of Health and Wellness accountability documents
- updated contracts with facility operators to ensure they state that they are complying with all applicable legislation
- increased the average paid hours of care (nursing and personal) per resident-day to 3.4 hours from 1.9, as required by the Department of Health and Wellness
- assessed long-term care facility services—either by conducting site visits or by facility self-reviews followed up with site visits

Authorities' actions on key findings at facilities

Authorities' actions on key findings from visits to long-term care facilities—the Authorities have also followed up on the actions facilities took to deal with the significant findings we identified last year in the areas of medication management, maintenance of medical records, and resident care plans. Through our review of the Authorities actions, we were satisfied that the areas of significant concern in our report as described above have been dealt with at the facilities we visited during our 2005 audit. However, we have not verified this by visiting the facilities.

Authorities need to develop policies and processes

Implementing the final standards at Authorities—since the release of the final care and accommodation standards in May 2006, Authorities have started planning to implement them. It is too early to comment on their plans. Significant tasks facing the Authorities include developing medication management and health service provider policies and processes and ensuring that all facilities have a process to resolve concerns.

Management at the Authorities has also indicated the following key hurdles to implementing the final standards:

Hurdles affecting implementation of standards

Human resources

- ability to recruit and retain qualified professional staff
- resources to develop polices and processes required under the final standards and resources to demonstrate compliance with standards

Training

- time to train all staff and the ability to fill in for staff away at training

Capacity (particularly rural and northern regions)

- availability of sufficient beds

Authorities working together and with Departments

The Continuing Care Leaders Council (the Council), is assisting Authorities and the Departments in overcoming these hurdles. The Council:

- identifies obstacles to implementation as they arise
- develops strategies to deal with obstacles identified
- promotes consistency in policies and practices
- shares best practices across the province
- keeps the lines of communication between Authorities and the Departments open

Sustainable Resource and Environmental Management (SREM)

Sustainable Resource and Environmental Management (SREM)—satisfactory progress

Background

Provincial resources include air, water, timber, oil and gas, coal and other minerals, and public lands. Resource decisions can significantly affect businesses such as agriculture, oil and gas, and forest companies, along with fish and wildlife, the public and other levels of government. In 1999, the Government of Alberta released *Alberta's Commitment to Sustainable Resource and Environmental Management*. In this document, the government affirms its policy of integrated and sustainable resource use and environmental management.

The Co-chairs of the Sustainable Development Coordinating Council (the Council) are charged with implementing the *Commitment*. The Council is made up of deputy ministers and senior executives from provincial agencies whose entities have a stake in sustainable development. The deputy ministers of Energy, Environment and Sustainable Resource Development co-chair the Council. The Council's terms of reference require it to report annually to the Standing Policy Committee on Energy and Sustainable Development (SPC) on the progress related to the *Commitment*.

Up to 2005, sustainable resource and environmental management (SREM) was primarily an initiative supported financially and reported on by the Ministry of Environment. In 2005, the Ministries of Energy, Environment and Sustainable Resource Development committed to sharing accountability for the SREM implementation across government. The three Deputy Ministers established a cross-ministry SREM Office that has a two-year mandate to support the effective coordination and delivery of SREM. The Deputy Ministers view SREM not as a project with a defined start and end but rather as an incremental process that will change the way they manage provincial resources and the environment in an integrated, coherent fashion in the future.

In our *2004–2005 Annual Report* (No. 14—page 72), we recommended that the Deputy Ministers of Energy, Environment, and Sustainable Resource Development, with the help of the SREM Office:

- publish a SREM implementation plan with projects, deliverables and deadlines, together with responsibilities and costs
- report annually to the Standing Policy Committee on their progress in implementing the SREM strategy envisaged in *Alberta's Commitment to Sustainable Resource and Environmental Management*

Criteria: the standards we used for our audit

We have used the province's accountability model to assess the success of SREM. Those who use public resources should:

1. Set measurable goals
2. Plan what needs to be done to achieve goals and indicate responsibilities
3. Do the work and monitor progress
4. Report on results
5. Evaluate results and provide feedback

For us to consider our recommendation implemented, there must be evidence that SREM can and will be brought into operation in accordance with the expectations of the *Commitment*.

Our audit findings

Overall the Ministries have made satisfactory progress. They have goals and have developed a plan. The mechanism for reporting results has not yet been developed.

Set measurable goals—criteria met

The *Commitment* established the goals and principles to be used in SREM. These goals have been translated into a medium-term strategy in the province's 20 year strategic business plan (2005):

> "The SREM framework will achieve outcome-based management systems, integrated sustainable resource and environmental management policies, and streamlined regulatory processes."

The three ministries signed a charter in January 2006. The charter confirms their commitment to the goals of SREM and establishes cross ministry outcomes, principles and valued behaviours.

Plan what needs to be done to achieve goals and indicate responsibilities—criteria partially met

To encourage sustainable resource and environmental management, the three ministries have prepared a SREM implementation plan that covers the initiatives that are either in progress or are planned for the next three years. The plan links the initiatives to the goals in the SREM strategy and includes deliverables, deadlines, responsibilities and some of the costs. Given the broad SREM goals, additional initiatives will be needed in future years for the goals to be achieved. The ministries have not yet established how these additional initiatives will be planned for and coordinated once the SREM Office and the implementation plan no longer exist.

What remains

Do the work and monitor progress—criteria partially met

Each initiative has a project plan. A group of deputy ministers from the Council meets regularly, approximately every two weeks, to ensure that the initiatives are progressing as planned. They review standard project progress reports. The mechanism for tracking all the costs associated with the initiatives and updating project plans is being developed.

What remains

Report on results and evaluate results and provide feedback—criteria not yet met

The ministries have proposed that they include SREM initiatives in their business plans and report progress in their annual reports. The ministries, however, have not yet defined reporting standards that will ensure the business plans and annual reports have sufficient information to allow stakeholders to assess their contribution toward the *Commitment*.

We reviewed the three ministries 2005–2006 business plans and annual reports. We found that:

- while information in business plans about the SREM approach and its goals is sufficient, the link between SREM goals and individual strategies is not clear.
- the plans did not always include all of the ministries' key SREM projects. For example, the Upstream Oil and Gas Policy Integration project, a key project supporting streamlined regulatory regime, is included in the Ministries' of Energy and Environment business plan strategies but is omitted from the Ministry of SRD's plan.
- the ministries' 2005-06 Annual Reports provide information on the activities of some of the SREM projects but not enough detail to understand whether the projects are on track and what further work needs to be done for the projects to meet the goals of SREM.
- the Land Use Framework, Oilsands Strategy, Upstream Oil and Gas Regulatory Review, and Information Sharing are identified in a separate SREM section as being SREM projects in all three ministry annual reports. Other projects noted in SREM implementation plan as being SREM projects are described in the annual reports but not always identified as SREM projects or, are initially discussed without reference to SREM and then later identified in the annual report as being SREM projects.

What remains

The progress of some SREM initiatives has been reported to SPC. However, the three ministries have not yet reported to the SPC on the overall progress in implementing the SREM strategy. They are evaluating how the existing business planning and annual reporting processes, including performance measures, can be used to meet the expectation of reporting against the Commitment. The challenge is how to use three business plans and three annual reports to corporately report on SREM implementation.

Implications and risks if recommendation not implemented

In the absence of an effective accountability framework, there is no basis for assessing the success or otherwise of *Alberta's Commitment to Sustainable Resource and Environmental Management*.